WEEDED OUT
Date.....................

THE INDIAN SUGAR INDUSTRY

With Compliments
M. P. GANDHI
421

(1946-47 ANNUAL)

Editor: **M. P. GANDHI,**

Proprietor, Bombay Commercial Corporation; Part-time Honorary Professor, Sydenham College of Commerce and Economics, Bombay; Member, Bombay Traffic Advisory Committee; Technical Adviser to the Indian Tariff Board in 1947, etc.

MINISTRY OF FINANCE
No. 52185
Date 27-8-58
FINANCE LIBRARY

Vol. XII. NOVEMBER 1947 Rs. 6/–; By V.P.P. Rs. 6/8

To be had of: GANDHI & CO. (Publishers),
Jan Mansion, Sir Pherozeshah Mehta Road, Fort, BOMBAY.

Telegrams: "KEEN" BOMBAY.
Telephones: Office: 25961; 24047; Res.: 43926.

INVESTA MACHINE TOOLS & ENGINEERING CO. LTD.

MANUFACTURERS OF

...DE I MACHINE TOOLS

...e:
...OUSE,
...TREET,
... BOMBAY.

Works & General Office:
CLERK ROAD,
PAIS STREET,
BOMBAY 11.

338.1736

The most Indispensable & Authoritative Annual Reference Book for the Indian Sugar Industry

THE INDIAN SUGAR INDUSTRY–

(1946-47 ANNUAL)

421

Vol. 12

Editor: M. P. GANDHI

Proprietor, Bombay Commercial Corporation; Part-time Honorary Professor, Sydenham College of Commerce & Economics, Bombay; Technical Adviser, Indian Tariff Board (1947); Member, Traffic Advisory Committee, Bombay, etc.

November, 1947. Price Rs. 6/-; V.P.P. Rs. 6/8. Sh. 12.

— CHIEF FEATURES —

- Retrospects and Prospects of the Sugar Industry in India in 1946–47 and 1947–48, and position in world economy.
- "The Sugar Industry at a Glance", containing 41 Statistical Tables re: production and consumption of Sugar, imports & exports, Production of Gur, Canecrop, Index Numbers, etc.
- The Sugar Industry Protective Duties Continuation Act, extending protection till 31st March, 1948.
- The Sugar and Sugar Products Control Order, 1947, the Gur Control Order, 1947, and other important Notifications.
- *Personnel* of U. P. and Bihar Sugar Control Board, 1947–48.
- Necessity of Regulation of Industry on an All-India basis.
- Discussion on Import and Export Prospects, Sugar Control Policy, and Rationing.
- *Personnel* and functions of Central Sugarcane Committee, 1947.
- Capital and Dividend Statement of Sugar Mills. (Latest.)
- Review of recommendations of Tariff Board enquiry held in 1947, and Government of India's action thereon.

APPENDIX

- *Complete and up-to-date list of Sugar Mills,* working and projected, with addresses of Managing Agents, information regarding crushing capacity, etc. in INDIA, and in PAKISTAN.

Extract from Reviews of 1945–46 Annual (Vol. XI)

Journal of Scientific and Industrial Research; February, 1947:

The Annual survey covers a wide field of the past history, the present status and the future prospect of the second biggest industry in India. This exhaustive review is welcome.

Another Comprehensive and Authoritative Publication:

"PROBLEMS OF SUGAR INDUSTRY IN INDIA—SCOPE AND PROSPECTS OF REORGANISATION IN POST-WAR PERIOD"

by M. P. GANDHI

With a foreword by Sir Purshotamdas Thakurdas, K.B.E.

425 Pages. Published in December, 1945 Rs. 12/- or £ 1/-

To be had of:

Messrs. GANDHI & Co. (Publishers), Jan Mansion, Sir Pherozeshah Mehta Road, Bombay.

A MONOGRAPH ON

HANDLOOM WEAVING INDUSTRY IN INDIA-1947

(ITS PAST, PRESENT AND FUTURE)

BY

M. P. GANDHI,

Proprietor, Bombay Commercial Corporation; Technical Adviser, Indian Tariff Board (1947); Editor, Indian Cotton Textile Industry Annual and Indian Sugar Industry Annual; Part-time Honorary Professor in Cotton Economics, Sydenham College of Commerce & Economics, Government of Bombay; Member, Traffic Advisory Committee, Bombay.

[Formerly, Controller of Supplies, Bengal Circle, Supply Department, Government of India; Secretary, Indian Chamber of Commerce, Calcutta; Secretary, Indian Colliery Owners' Association; Secretary, Indian Sugar Mills Association; Secretary, Federation of Indian Chambers of Commerce & Industry; Secretary, Indian National Committee, International Chamber of Commerce; Chief Commercial Manager, Dalmia Cement Ltd. & Rohtas Industries Ltd.; Officer, Credit Department, National City Bank of New York, Calcutta; Director, Indian Sugar Syndicate Ltd.; Member, Bihar Government Labour Enquiry Committee; Member, U. P. & Bihar Joint Power Alcohol Committee; Member, U. P. & Bihar Sugar Control Board; Member, Cottage & Rural Industries Sub-Committee of the National Planning Committee; Member, Advisory Committee, East Indian Railway; Member, Executive Committee, Bengal Textile Institute; Ashburner Prizeman, Bombay University; Examiner in B.Com. and M.Com. Examinations of the University of Allahabad, Lucknow, Bombay, etc.]

338.1736

9055

Extract from Review of Indian Sugar Industry—1945-46 Annual

"Australian Sugar Journal", Brisbane, 15th August, 1947:

Mr. Gandhi's Annual gives a good picture, in statistics and text, of the growth of the Indian Sugar Industry and its present status.

The Annual can be commended to those interested in having comprehensive information about it.

To be had of:

GANDHI & CO. (*Publishers*),

JAN MANSION, PHEROZESHAH MEHTA ROAD,

FORT, BOMBAY.

'Phone: Office 25961 & 24047. **Res. 43926.** **'Gram: "KEEN", Bombay.**

The only Authoritative & Indispensable Annual Reference Book for the Indian Cotton Textile Industry

The Indian Cotton Textile Industry—(1946-47 Annual)

Vol. X *Editor:* M. P. GANDHI

Proprietor, Bombay Commercial Corporation; Part-time Honorary Professor in Cotton Economics, Sydenham College of Commerce, Bombay; Technical Adviser, Indian Tariff Board (1947), etc.

420 Pages: August, 1947. Price: Rs. 6: V.P.P. Rs. 6/8. Sh. 12.

CHIEF FEATURES:

- Retrospects and Prospects of the Indian Cotton Textile Industry, during the war period and in the near future.
- *Personnel* of the Cotton Textile Board, its various Sub-Committees, and the All-India Handloom Board.
- "The Cotton Industry at a Glance" giving 21 authoritative and up-to-date Statistical Tables relating to the Industry.
- Latest Tariff on Piecegoods and Yarn, and Text of Cotton Yarn and Cloth (Control) Order, 1945 with latest amendments thereto, and Cotton Cloth Movements Control Order, 1946 of and references to other allied Control Orders.
- Review of Govt. measures for Control of Prices of Cloth and Yarn.
- Review of Recommendations of Tariff Board, 1947, de-protecting the industry, and comment on Government of India's action thereon.
- Scope of Export and Import of Piecegoods in post-war period.
- Target of further development of industry in post-war period.
- Discussion on Labour Legislation.
- Position of RAYON in future textile development.

THREE APPENDICES:

- An elaborate and up-to-date Appendix regarding cultivation of Cotton, Exports of Cotton, Imports of Cotton, Prices of Cotton, Consumption of Cotton in Indian Mills, etc.
- A detailed Appendix regarding Handloom Industry.
- *Complete* and *up-to-date* list of Cotton Mills in India, with names and addresses of Managing Agents, number of Spindles and Looms.

Extract from Reviews of 1946-47 Annual (Vol. X)

H. E. Sir H. P. Mody, Governor of Bombay, September, 1947

The work seems to increase in interest and instruction every year and must command a widening circle of readers.

"Eastern Economist", New Delhi, 29-8-1947

The editor has dealt with a very large number of questions in detail; and of course, the standard of the previous issues has been maintained.

"Commerce", Bombay 6-9-1947

" This year marks the end of protection granted to the industry and also the failure of th industry to live up to public expectations of larger cloth supplies. These and other events of the year receive adequate attention in Mr Gandhi's *Annual* which covers every facet of the industry Well arranged statistical tables—which, by the way, are more up-to-date than any Government statistics as yet published—relating to cotton and cloth production, imports and exports, continue as before to be the features of this *Annual.*"

To be had of.

Messrs. GANDHI & CO. (Publishers), Jan Mansion, Sir Pherozeshah Mehta Road, Bombay.

D. S. LIBRARY MADRAS

GANDHI & Co. *(Publishers)*

(Established by Mr. M. P. GANDHI)

Publishers:

The Indian Sugar Industry *Annual*
The Indian Cotton Textile Industry *Annual*

Telephone: { Office: 25961 & 24047; Resi.: 43926 }
Telegrams: KEEN, Bombay.

LATEST AUTHORITATIVE AND USEFUL PUBLICATIONS

The Indian Cotton Textile Industry—1946-47 Annual: Vol. X
Publishers: GANDHI & Co.
420 pages Rs. 6/- V.P.P. Rs. 6/8
Foreign Edition: Sh. 12
Date of Publication: August 1947

The Indian Sugar Industry—1946-47 Annual: (Vol. 12)
Publishers: GANDHI & CO.
Rs. 6/-: V.P.P. Rs. 6/8
Foreign Edition: Sh. 12/-
Date of Publication: Nov. 1947.

Copies of Shri M. P. Gandhi's various publications and these Annuals will be available, if in stock, at the prices shown below:

SUGAR	Present Prices
The Indian Sugar Industry—Its Past, Present & Future, by M. P. Gandhi—with a Foreword by Seth Walchand Hirachand (1934), 382 pages.	Rs. 10/-
Prob'ems of Sugar Industry in India—Scope and Prospects of re-organisation—by M. P. Gandhi, with a foreword by Sir Purshotamdas Thakurdas (1945), 425 pages.	Rs. 12/-
The Indian Sugar Industry—1935 Annual, 125 pages, 1936 Annual, 200 pages, 1937 Annual, 250 pages, and 1938 Annual, 300 pages, each.	Rs. 6/-
The Indian Sugar Industry—1939 Annual.—Foreword by Dr. Rajendra Prasad.	Rs. 6/-
The Indian Sugar Industry—1940 Annual.—Foreword by Dr. Syed Mahmud, 1941 Annual with Foreword by Mr. D R. Sethi, 1942 Annual, 1943 Annual (350 pages), 1944 Annual (300 pages), 1945-46 Annual (350 pages), and 1946-47 Annual (374 pages).	Rs. 6/- each
COTTON TEXTILE	
The Indian Cotton Textile Industry—Its past, present and future, with which is incorporated the 1937 Annual by M. P. Gandhi—with a Foreword by Sir Purshotamdas Thakurdas, 240 pages.	Rs. 6/-
How to compete with Foreign Cloth—with a Foreword by Sir P. C. Roy (1931), 130 pages.	Rs. 6/-
The Indian Cotton Textile Industry—1938 Annual, 175 pages, with a Foreword by Subhas Chandra Bose. The Indian Cotton Textile Industry—1939 Annual with a Foreword by the Hon'ble Dr. K. N. Katju, 1940 Annual with a Foreword by Mr. Nalini Ranjan Sarker, 1941 Annual with a Foreword by Dr. John Matthai, 1942 Annual with a Foreword by Sir C. B. Mehta, Kt., and 1943 Annual with a foreword by Sir Homi Mody, 1944 Annual (300 pages), 1945-46 Annual (400 pages), and 1946-47 Annual (420 pages).	Rs. 6/- each

To be had of: **Messrs. Gandhi & Co. (*Publishers*),**
Jan Mansion, Sir Pherozeshah Mehta Road, Bombay.

N.B.—**Book your Advertisement and Copies now for**
1947-48 Indian Cotton Textile Industry Annual: To be Published in May, 1948.
1947-48 Indian Sugar Industry Annual: To be Published in June, 1948.

31-10-47

PREFACE

The Indian Sugar Industry occupies a unique place in the agricultural and industrial economy of the country. It has shown a remarkable progress during a period of 15 years, and although production during the last 3 years has been continuously falling due to a variety of reasons, it has generally done well and has been responsible for a considerable improvement in the conditions of cultivators of cane. The area under cane has gone up within the last 15 years, and there has been considerable improvement also in the acreage under improved varieties during this period. Roughly, over 90 per cent of the acreage is now under improved varieties. It is a matter of regret, however, that in regard to the yield of cane per acre a lot of leeway has yet to be made. Although there has been some increase in the average yield of cane during the last few years, the improvement seems to have been arrested, and we are greatly behind the other important sugar producing countries of the world in this respect. Our average yield of about 15 tons per acre compares very unfavourably with the yield of about 56 tons in Java, 62 tons in Hawaii, 27 tons in Philippines, 28 tons in Formosa, 22 tons in U.S.A., 41 tons in Peru, 30 tons in Egypt, and 21 tons in Australia. Our recovery of sugar from cane, improved now to 10% also compares slightly unfavourably with the recovery of 11.49% in Java, 12% in Mauritius and Cuba, 14% in Australia, 12% in Formosa, etc.

In India itself, about 100 tons of cane per acre have been grown on selected plots in the Bombay-Deccan area, and on the authority of agricultural experts it is not impossible to increase the yield to about 45 to 50 tons per acre all over the country. We hope that the Government of India and the Indian Central Sugarcane Committee will undertake comprehensive research work in order to increase the yield of cane per acre and spend liberally on such research work at an early date. It is a matter of great satisfaction that in appreciation of the necessity of early improvement in the cultivation of cane with a view to bringing down the cost of production of sugar in the country, to enable the industry to do without protection at an early date, the Government of India, on the recommendation of the Tariff Board of 1947, have agreed to earmark a sum of 4 annas per cwt. out of the proceeds of excise duty on sugar. This sum will work out to about Rs. 50,00,000 per year, and will mean a grant for purposes of research of about Re. 1-4-0 per acre under cane (there are 40,00,000 acres under cane), and if this amount is spent effectively on improvement of cane cultivation, it will be of great benefit to the agriculturists, and indeed also to the industry generally.

We have no doubt that the future of the sugar industry in India depends upon the success it achieves by undertaking short-term and

M. L. D.
MADRAS

long-term plans of research with a view to bringing down the cost of cultivation of cane. The success of Java, Philippines, Hawaii, etc. was due to liberal expenditure on research for improvement of the cane crop. This must be done in India in order to stabilise and develop the industry on modern lines.

We are convinced that India will require expansion of the sugar industry before long in order to produce sugar in larger quantities than at the present time for meeting our growing requirements. The Government of India have themselves fixed the target of production of sugar at 18½ lakhs tons per year, which, in our opinion, is very modest looking to our present low consumption of sugar as compared with the advanced countries of the world, and we feel that before long we will have to produce larger quantities of sugar both for home requirements and for export to other countries. In the world's post-war sugar economy, India can fill an important place, and we hope and trust that the Government of the country will render maximum aid to the industry in this behalf.

We have referred at great length to the question of protection to the sugar industry in the years to come. We have expressed the view that the sugar industry in India will require protection for a long time to come, and we have no doubt that in appreciation of the fact that protection to the sugar industry, which is in fact protection to the sugarcane cultivation which is an integral part of India's agricultural economy, the Government will not hesitate in continuing protection as long as the necessity exists therefor. Even with the utmost expedition in the matter of improvement of yields of cane with a view to bringing it on a par with the level of Java, a decade or two will elapse, and till then protection for Indian agriculture and cane cultivation against possible inroads of sugar from foreign countries will be required.

We do not see any serious possibility of competition with Indian sugar from abroad within the next 2 or 3 years at any rate, in view of the fact that there is world shortage of sugar and the fact that the industry in Java, our formidable competitor, has been seriously disorganised at the present time. But we hope that the Government of India will continue to maintain the present tariff wall, although it has no practical significance, so as not to create the hope in other countries that India is a free market for sugar, as such a step will have adverse repurcussions on our agricultural economy, and will retard the investment of further capital required in the establishment of new units.

The technical efficiency of Indian factories is fairly satisfactory, and if protection to the sugar industry is necessary for the future, it is very largely, if not entirely, due to the backwardness of Indian agriculture in general, and cultivation of cane in particular. It is the duty

of the Government, therefore, to utilise all its resources for effecting a reduction in the cost of cultivation of cane, which constitutes, at the present time, nearly 70% of the cost of sugar.

As observed in an earlier paragraph, we feel that it will be necessary for India to increase its production of sugar considerably before long, and this, we venture to suggest, can be done *without* increasing the area under cane, by increasing the yield of cane per acre from its present average of 15 tons to about 40 to 45 tons, which is practicable, and indeed, even with a smaller area under cane, if the palm trees which grow in very large numbers in the country are utilised for the manufacture of sugar and gur. This question of the scope of optimum production and consumption has been discussed in detail in Mr. M. P. Gandhi's work on *Problems of Sugar Industry in India—Scope and Prospects of Re-organisation in Post-war Period* (425 pages), with a foreword by Sir Purshotamdas Thakurdas, published in December 1945, and we invite the careful attention of the readers to this publication.

We regret that, as in the last year, we have not been able to publish this *Annual* as early in 1947 as was expected. The dislocation caused in the economic system of the country by the disturbances which followed the grant of independence to India in August 1947, the emergence of fresh problems consequent upon the separation of Pakistan from India, and our desire to pass them under review have been largely responsible for the delay in this publication.

We are thankful to Mr. M. P. Pai, I.C.S., Joint-Secretary, Department of Industries and Supplies, for his appreciation of the usefulness of this *Annual* (as also of our other *Annual* on the Indian Cotton Textile Industry) and for giving us permission to increase the number of pages to some extent. We hope that in view of the importance of this publication, we will be allowed to return to the normal size of our 1943 *Annual*, when we publish our 1947-48 *Annual*. This would enable us to discuss various problems, including those resulting from the separation of Pakistan from the Union of India, at greater length during the next year.

It affords us really much pleasure and satisfaction to note that this *Annual* is continually growing in popularity and that there is an increasing measure of appreciation of the usefulness of this publication, ever since it was first published in 1935. We are, no doubt, happy at the very highly appreciative references made in the press regarding the usefulness of this *Annual* as the only up-to-date book of reference containing an authoritative and comprehensive study of the problems before the industry in an unbiassed, critical and objective manner, and giving a lead in suggesting practical methods for reform in the industry, from year to year. The *Annual*, we are pleased to find, has also been

found to be of great use by the various Departments of the Government, Central as well as Provincial, the Universities, the commercial community, and the general public.

We will consider ourselves amply rewarded if this publication succeeds in drawing the pointed attention of all interested in the industry, viz.: the Government, the manufacturers, the cultivators, the consumers, and the general public, to the various urgent problems before the industry, and to the necessity of its further development and reorganisation on carefully planned lines in the years to come.

The importance of the industry in the national economy need hardly be stressed if it is remembered that it has stopped the drain of about Rs. 16 crores per annum, with the practical cessation of sugar imports, is supporting no less than 20 million agriculturists whose interests are indissolubly linked up with the future of this industry, has provided a channel for investment to indigenous capital estimated at Rs. 33 crores, has been responsible for finding employment for no less than 3,500 University men and 1,30,000 labour, skilled and unskilled, and has been responsible for augmenting the income of millions of cultivators as a result of improvements in cane cultivation.

For the sake of ready reference, we have given current important legislative measures pertaining to the industry, and no less than 41 up-to-date statistical tables in an earlier portion of this *Annual*, styled "The Sugar Industry at a Glance" (pp. i-xl). The portion "India's Present Sugar Position" (p. xl) also contains some up-to-date information.

Appendix I, gives a full and up-to-date list of the sugar factories in India showing the location, district, the nearest railway station, the daily cane-crushing capacity, and names and addresses, including telegraphic addresses of the Managing Agents or Proprietors. Factories which fall in Pakistan are shown separately. A list of Refineries is also given on page 31 of the Appendix.

We take this opportunity of thanking the Director of the Imperial Institute of Sugar Technology, Cawnpore, for the help he has given us at all times. We are also thankful to the Cane Commissioners of the U.P. and Bihar, to the Secretaries of the Indian Sugar Syndicate and the Indian Sugar Mills' Association, and to the Sugarcane Expert at Coimbatore, for the help they have rendered to us in maintaining this publication authoritative, reliable and up-to-date, so that it could be made use of safely by any one needing information regarding the industry.

We would be failing in our duty if we did not acknowledge the prompt and willing assistance we have received from the Chairman,

Sugar Commission, U.P. and Bihar, who has furnished us with much authoritative material on the industry after taking considerable trouble in this behalf. It has helped very much in adding to the value of this *Annual.* We must also acknowledge the unfailing assistance received from the Indian Central Sugarcane Committee, the Directors of Industries, and particularly from Mr. N. T. Mone, Sugar Controller for India, who has provided us with much valuable information and up-to-date statistics.

We have maintained the same style and *format* in this year's *Annual* as were introduced by Mr. M. P. Gandhi, the Editor of this *Annual,* when the first *Annual* was published in 1935, as it assists the readers and facilitates their looking for information at a particular place.

C/o Gandhi & Co.,
Jan Mansions,
Sir Pherozshah Mehta Road,
Fort, Bombay.
Tel.: Office: 25961; 24047.
Resce.: 43926.

M. P. GANDHI
Editor, Indian Sugar Industry *Annual.*

31st October 1947.

P.S.—

In this year's Annual, *we have urged, among other things, the particular necessity of:—*

(1) *revision of the scale for computation of manufacturing expenses for determining the price of sugar so as to provide a fair margin of profit for the manufacturers* (pp. 7-14) ;

(2) *an industrial truce whereby all stoppage of work by labour in factories is to be prevented at least for the next two seasons, in the interest of acceleration of production of sugar so vital for us, by labour resorting to conciliation, arbitration or adjudication, for enforcing its demands* (pp. 73-74) ;

(3) *announcement of continuance of protection to the sugar industry till* 1949, *in the first instance* (pp. 38-51) ;

(4) *undertaking of research work by the Indian Central Sugarcane Committee for reducing the cost of cane by increasing the average yield per acre, and Government's active assistance for manufacture of Power Alcohol with a view to utilising molasses* (*pp.* 44-48 *and* 55-60) ;

(5) *suitable increase in the price of sugar in* 1947-48 (p. 52) ; *and*

(6) *effective control on production and prices of gur and khandsari sugar, in order to increase the production of white sugar at least to 10½ lakhs tons in 1947-48, and increasing quantity in the years to come, so that India may rank as exporter of sugar to neighbouring countries within the next few years* (*pp.* 16-23 *and* 76).

31st October 1947 M. P. GANDHI

Do please have a look

at

- SUGAR INDUSTRY AT A GLANCE &
- STATISTICAL TABLES (Pages i to xl)
- PREFACE
- VARIED ADVERTISEMENTS

You are sure to find something of interest, profit, and amusement!

30-10-1947.

M. P. GANDHI.

THE INDIAN SUGAR INDUSTRY—
(1946-47 ANNUAL.)

DETAILED CONTENTS

PAGE

Preface ... ... i-v

41 *Statistical Tables* in "The Sugar Industry at a Glance" ... i-xxv

Protection Act, Sugar and Gur Control Orders, *Personnel* of Sugarcane Committee, U. P. & Bihar Sugar Commission and Control Board, etc. ... ... xxvi-xxxix

A World Sugar Picture And India's Position Therein xl

The Indian Sugar Industry—1946-47 Annual—A Review of the Sugar Industry in India during the 1945-46, and 1946-47 Seasons, and comments on the 1947-48 Season.

Introductory 1

Survey of Conditions in 1945-46 and 1946-47 2

Handicaps of the Industry in 1945-46 and 1946-47 3

Reduction of Ration likely in 1948 3

World Sugar Production—Trend towards increase 4

Lower Sugar production due to greater necessity of foodcrops ... 4

Non-varying Minimum Cane Prices in 1945-46 4

Non-varying Minimum Cane Prices in 1946-47 5

Cane-Cess in U. P. and Bihar in 1946-47 5

Transport position of Cane during 1946-47 Season in the U. P. and Bihar 5

Duration of the 1946-47 Cane-crushing Season 6

Production of Factory Sugar (in tons) by Provinces in 1945-46 and 1946-47 6

Rise in Sugar Prices since 1942 7

Sugar Industry's Controlled Profits 8

How Sugar Prices are Determined and Fixed 9

Correct Method of Fixing Sugar Prices 9

Present Basis of Fixing Sugar Prices 10

Statement showing Calculation of ex-factory Sugar Price for D-24 Quality for U. P. and Bihar for the season 1945-46 10

Increases in Basic Allowances Accepted 11

Basic Allowance (included in Basic Manufacturing Expenses) for a Season of 110 days and 10% Recovery 11

PAGE

Increases allowed due to War Expenses 11
Statement showing Calculation for ex-factory Sugar Price for D-24 Quality for U. P. and Bihar in 1946-47 11
Sugar Controller's Views Regarding Price Fixation 13
Central Government's Subsidy to U. P. and Bihar Sugar Factories to compensate for Additional Labour Charges 13
Suitable Change in Scale for fixing Sugar Prices Inevitable ... 14
Allocation of Sugar by International Emergency Food Council to meet the Shortage in India in 1947 14
International Emergency Food Council's Allocation of 1 lakh tons to India in 1947 14
Reduction in Sugar Allotment likely in 1948 15
Lower Cane Price results in Lower Acreage under Cane ... 15
Central Sugar Control since 1942 16
De-control of Sugar Suggested in 1947 16
Sugar Control should be maintained 16
Sugar and Gur Control to continue—Government's Decision in 1947 17
Gur Control since 1942 17
U. P. bans Gur Manufacture in Factory Areas in 1946-47 ... 18
Bihar, Bengal and Punjab restrict Movement and Manufacture of Gur 19
Alterations in Gur Policy in the U. P. in 1946-47 19
Madras and Bombay ban on Gur 20
Sugar Controller's Power to Control Gur 20
Clear Policy in relation to Gur Essential 20
Palm Gur 21
Development of Palm Gur Industry—Early Investigation Essential ... 21
Control of Khandsari Sugar in 1946-47 22
U. P. Khandsari Acts of 1947 22
Strict Control on Khandsari recommended 23
Production of Sugar by Khandsari and from Gur 24
Khandsari Sugar 24
Khandsari Production in Factories liable to Excise Duty ... 25
Definition of Khandsari Sugar 25
Sugar refined from Gur 27
Decrease in Supply of Sugar to the Civil Population expected in 1947-48 27
Positive Policy of encouraging Production of Sugar required ... 28
Rationing of Sugar in Bombay 28
Ration of Sugar in Bengal, Madras, U. P., etc. 29
Cube Sugar available as Extra in Some Places 30
Consumption of Sugar and Gur in India 30
Imports of Sugar and Negligible Revenue from Import Duty ... 30

PAGE
India exports Small Quantity of Sugar 31
Export Policy in relation to Sugar in Future 31
Area under Sugarcane in 1946-47 31
A Note on the Industry in Madras in 1946-47 32
A Note on the Industry in Mysore in 1946-47 33
A Note on the Industry in the Bombay-Deccan in 1946-47 ... 34
Bombay Sugar and Power Alcohol Sub-Committee's Report, 1946 ... 34
Effect of Grow-More-Food Campaign on Industry in Bombay ... 35
Confectionery Manufacture in Bombay 36
A Note on the Sugar Production in Bengal, Punjab and Other Areas in 1946-47 36
Importance of Sugar Industry in the National Economy ... 37
Tariff Board Enquiry, 1947 38
Protection of the Industry since 1932—Tariff Board Enquiry ... 38
Alternatives before the Board 39
The Case of the Industry 40
U. P. and Bihar Governments' View for continuance of Protection ... 41
Sugar Controller's plea for Continuance of Protection 41
Reasoning of the Tariff Board 43
More Funds for Research recommended by Tariff Board ... 44
World's Sugar Production—Tariff Board's Idea 44
Case for Continuance of Protection 44
Possible Increase in Price of Sugar 45
Board's Recommendation for Continuance of Protection ... 46
Protection to the Sugar Industry is Protection to Indian Agriculture 47
Government's Resolution of March 1947 47
1945-46 *Annual's* Recommendations for Protection endorsed by Tariff Board 48
Great Agricultural Improvement essential before Protection can be Removed 49
Technical Efficiency of Factories 49
Future of Protection to Sugar Industry—Necessity of Continuance for Some Years 49
Protection Duty no Burden—Protection an Unqualified Success ... 50
Relative Increase in Index Number of Sugar, Sugarcane, Wheat, Rice, etc. 52
Rise in Price of Sugar in 1948 likely 52
Protection Decidedly Advantageous to the Industry 52
Sugar Panel's Report, 1946—Target of Production, etc. 53
Allocation of 25 Units in 1947 53
Cost of Further Expansion—Nearly Rs. 220,000,000 54

PAGE

Panel's Suggestions for Reduction of Cost of Sugar 54
Increase in Capacity of Plants to 800 tons recommended ... 55
Power Alcohol—Manufacture Recommended 55
Molasses and Power Alcohol Production 55
Report of the Joint Power Alcohol and Molasses Enquiry Committee, 1938 56
The U. P. Power Alcohol Act, 1940 56
The First Unit of Production in Northern India 57
New Units of Production 57
Production at New Distilleries 57
Distribution of Fuel Alcohol 57
Development of Power Alcohol in Bihar 58
Power Alcohol Industry in Other Areas 59
Molasses Control Orders in Provinces 59
New Uses for Molasses 60
New Uses for By-products of Sugar Factories 60
Confectionery, Biscuit and Canning Industry 60
Sugar and Gur Control Orders, 1947 and Tariff Act, 1947 ... 61
The Sugar (Temporary Excise Duty) Act, 1947 61
The Bihar Sugar Factories Control (Amendment) Act, 1947 ... 62
Control over Khandsari Sugar 62
Profits of Sugar Companies 62
Capital and Net Block of a few Sugar Companies, and Dividends since 1936 63
Labour Unrest in 1946 and 1947—Inquiry Committee appointed in 1946-47 64
Government of the United Provinces—Industries and Labour Department—Resolution Re: The Report of the Sugar Factories Labour (Wages) Inquiry Committee, United Provinces and Bihar ... 67
Government of the United Provinces—Industries, Labour and Excise Department—Resolution Re: Supplementary Report of the Sugar Factories Labour (Wages) Inquiry Committee, U.P. and Bihar ... 69
A Note on Conditions of Labour in Sugar Factories in Bihar during the year 1946-47 72
Labour Inquiry in U. P. industries, 1947-48 72
Labour Strikes in Sugar Factories detrimental to Cultivators ... 73
Government of India's Subsidy to U. P. and Bihar Sugar Factories in 1947 74
Sugar Industry—A Big National Asset 75
Increase in Sugar Consumption in last few Years 75
Export possibilities of Indian Sugar 76

PAGE

PART II

Chief Problems before the Sugar Industry and Scope for its Future Development 77
Utilisation of Water Resources 77
Better Utilisation of Land 78
Smaller area can give Larger Quantity of Cane 78
Peculiarities of Indian Agriculture... 79
Development suggested by the Advisory Board in March 1944 ... 80
Peculiarities of Sugarcane Growth in India 80
Chief Problem of Reducing Cost of Sugar and Sugarcane ... 81
Magnificent Role of Industry 82
Localisation of the Industry 83
Sugarcane—Necessity of Improvement in Cultivation and in Yield per Acre 83
Extension of Cane Area or Improvement? 84
Encouragement of High Sucrose Cane or Heavy Yielding Varieties?... 84
Should Cane Prices be fixed on Weight, or should they vary according to Varieties and Sucrose Contents? 85
Principal Agricultural Problems of the Industry 86
Dr. Burns' Target for Cane Yield—50 Tons per Acre 87
Variation in Prices of Different Qualities of Cane suggested ... 87
Increase in Yield of Tonnage and Cheapening Cost by Manuring, Ratooning, etc. 88
Increase in Cane Acreage not necessary—Palm Sugar Possibilities should be explored 88
Diseases in Cane and Pests must be eradicated 88
Education of Cultivators by Demonstration of Improved Methods ... 89
Improvements in Cane Crop essential 90
Valuable Educational Effect of Cane-crop 90
Imperial Council's Valuable Work for Sugar Industry taken up by the Indian Central Sugarcane Committee from 1944 91
Resume of Work of the Indian Central Sugarcane Committee in 1946-47 91
Central Sugarcane Committee favours Continuance of Protection for some years 92
Increased Grant to the Indian Central Sugarcane Committee ... 94
Research on Cane at the Coimbatore Sugarcane Breeding Station, 1946-47 95
Mr. N. L. Dutt on Improvement of Cane Yields on Cane-growers' Farms 96
Working of the Cane Development Department in U. P. in 1945-46 97

	PAGE
Distribution of Seed	97
Distribution of Manure	97
Implements	98
Weather Conditions	98
Factories and Crush	98
Cane-growers' Co-operative Societies	98
Marketing of Cane	98
Seed Stores	98
Rural Development Activities	99
Cane-area of 16,000 acres per factory needed	99
Research work at Shahjahanpur (U. P.) in 1945-46	99
Cane Development in Bihar in 1945-46	100
Cane-growers' Co-operative Societies in Bihar in 1946-47 ...	100
Co-operative Farming undertaken	101
Review of the Quality of Sugar Manufactured in 1945-46 ...	101
Sugar Control Advisory Committee, 1947	102
Imperial Institute of Sugar Technology, Cawnpore/Lucknow ...	102
Indian Sugar Syndicate's Activities in 1946-47	103
Cost of Cultivation of Cane and Fair Price of Cane	104
Factories prefer Gate Cane to Rail-Borne Cane	105
Problem of marketing Sugar	105
Consumption of Sugar in Provinces	105
The Bihar Labour Inquiry Committee, 1938-39	106
Future of the Industry rests on Improvement in Cane Yields	109
Our Target of Production can be Still Higher	106
World Production of Sugar	107
Conditions in Java	108
Formosa	109
Cuba	109
Australia	109
Persia	109
Spain	109
India and Pakistan	109
Indian Sugar Industry's Development must be maintained ...	110
Industry has amply justified Protection	110
Increase in Production is the Paramount Need	111

APPENDIX

List of Sugar Mills in India (Also showing mills in Pakistan) ... 1-32

STATISTICAL TABLES
IN
"THE SUGAR INDUSTRY AT A GLANCE" (1946-47)

(Revised up to 30th September 1947)

TABLE No. 1

Number of Cane Factories working in India, including States, and Production of Sugar from Cane Factories, Gur Refineries, Khandsari, Net Import of Sugar in British India and Import in Kathiawar Ports during the last 15 years, and estimates for 1947-48

Year (November-October)	No. of Cane Factories working in India.	Cane Factory Production (November-October)	Sugar Refined from Gur (January-December)	Khandsari (Conjectural estimates) (Nov.-Oct.)	Total Production of Sugar in India (Nov.-Oct.)	Net Imports (Excluding Re-exports) of Sugar in British India (Nov.-Oct.)	Imports of Sugar in Kathiawar Ports (Nov.-Oct.)
		Tons	Tons	Tons	Tons	Tons	Tons
1932-33	57	290,177	80,106	275,000	645,383	321,081	68,649
1933-34	112	454,000	64,900	200,000	718,900	233,366	87,094
1934-35	130	578,100	43,500	150,000	771,600	197,775	113,364
1935-36	137	932,100	47,900	125,000	1,105,000	86,962	45,218
1936-37	137	1,111,400	25,600	100,000	1,237,000	11,160	12,870
1937-38	136	930,700	17,200	125,000	1,072,900	9,410	12,238
1938-39	139	650 800	14,700	100,000	762,500	254,400†	77,000
1939-40	145	1,241,700	26,500	125,000	1,393,200	34,093	32,743
1940-41	148	1,095,400	44,700	200,000	1,340,100	27,934	15,283
1941-42	150	778,100	20,400	100,000	898,500	23,843	6,608
1942-43	150	1,070,700	7,800	214,000	1,292,500	8	—
1943-44	151	1,216,400	7,700	150,000‡	1,374,000	14	—
1944-45	140	953,500	6,400	125,000	1,084,900	30	—
1945-46	145	944,800	4,000	117,000	1,065,800	—	—
1946-47*	141	928,200	4,000	100,000	1,042,200	—	—
1947-48	140	950,000	4,000	100,000	1,064,000	(Our estimates)	—

* Vide *Indian Trade Journal*, p. 289, dated 5th June 1947.
† Vide *Indian Trade Journal* (Supplement), dated 10th October 1946 (From 1933-34 to 1943-44).
‡ Sugar Controller's estimate for Khandsari for 1943-44 *is smaller*.

TABLE No. 2

Comparative growth of Sugar Factories† in the various Provinces since 1931-32

(No. of cane-factories Working)

Province	1931-32	1932-33	1933-34	1934-35	1935-36	1936-37	1937-38	1938-39	1939-40	1940-41	1941-42	1942-43	1943-44	1944-45	1945-46	1946-47
United Provinces ..	14	33	59	65	67	68	68	69	70	70	70	71	70	67	67	66
Bihar ...	12	19	33	34	35	33	33	32	32	32	31	31	31	29	29	29
Punjab & N.W.F. ...	1.	1	5	6	4	5	3	3	3	4	4	4	2	2	3	3
Madras ...	2	2	4	8	8	11	8	7	10	11	11	10	12	11	11	11
Bombay ...	2	1	4	5	6	6	7	7	7	8	10	9	10	10	10	9
Bengal ...	...	...	2	5	6	6	6	8	9	9	9	8	6	4	7	5
Orissa ...	..	...	...	...	...	...	2	2	2	2	2	2	2	1	1	1
Indian States ...		...	4	5	9	8	9	11	11	12	13	15	18	16	17	17
Total for India ...	32	57	112	130	137	137	136	139	145	148	150	150	151	140	145	141
Burma* ...	1	1	1	2	2	3	2	2	3	3	(N	o	info	rma	tion)	1

* Burma excluded from 1936-37 onwards from the total for India.
†There will be 10 factories in Pakistan (*vide* Appendix).

TABLE No. 3

Number of Sugar Factories in various Provinces, working in 1946-47, Actual quantity of cane crushed, sugar produced and Recovery percentage obtained, etc.

(Official Estimates of the Director, Imperial Institute of Sugar Technology, Cawnpore, published in the Indian Trade Journal, dated 5th June 1947)

Provinces	No. of Factories Working	Cane Crushed	Sugar Made	Molasses Obtained	Recovery Sugar per cent Cane	Recovery Molasses per cent Cane
		Tons	Tons	Tons		
United Provinces ...	66	5,195,334	520,423	172,310	10.02	3.32
Bihar ..	29	1,491,038	150,504	49,339	10.09	3.31
Punjab & N.W.F. ...	33	159,419	14,391	5,014	9.03	3.15
Madras ...	11	623,085	51,178	26,665	8.21	4.28
Bombay ...	9	668,176	70,041	26,995	10.48	4.04
Bengal ...	5	222,206	20,184	9,276	9.08	4.17
Orissa ...	1	22,000	2,299	902	10.45	4.10
Indian States ...	17	1,031,126	99,186	39,598	9.62	3.84
Total ...	141	9,412,384	928,206	330,099	9.86	3.51

TABLE No. 4

Total, and *per capita* consumption of Sugar and Gur in India *

Year (November-October)	Consumption of Sugar in tons	Official Estimate	Consumption of Gur in tons	*Per Capita Consumption*		
				Sugar	Gur	Total of Sugar and Gur
				lbs. per head	lbs. per head	lbs. per head
1932-33	1,006,000	,,	3,240,000	6.3	20.2	26.5
1933-34	996,000	,,	3,486,000	6.1	21 5	27.6
1934-35	1,059,000	,,	3,701,000	6.5	22.6	29.1
1935-36	1,074,000	,,	4,101,000	6.5	24.8	31.3
1936-37	1,167,000	,,	4,268,000	7.3	26.7	34.0
1937-38	1,159,000	,,	3,364,000	7.2	20 9	28.1
1938-39	1,073,000	,,	2,131,000	6.6	13.1	19.7
1939-40	1,019,100	,,	2,441,000	6.4	18.0	24.4
1940-41	1,100,000	,,	3,414,000	6 7	20 6	27.3
1941-42	1,132,000	,,	2,829,000	6.0	18.5	24.5
1942-43	916,000	,,	3,015,000	5.9	20.1	26.0
1943-44 ..	1,046,480	,,	3,499,000	6.5	23.8	30.3
1944-45†	957,700	,,	3,633,000	5.9	24.1	30.0
1945-46*	902,300	,,	3,578,000	5.5	24.0	29.5

* Total value of sugar, including gur, available for civilian consumption in the year 1945-46 may be estimated at about Rs. 161 crores.

Price calculated at the rate of Rs. 16-10-0 per maund of sugar and Rs. 12-0-0 per maund of gur as the standard of average for the whole season.

Sugar @ Rs. 16-10 per maund and Gur @ Rs. 12 per maund

		Tons	Rs.	
1945-46	Sugar	9,02,300	41,67,00,000	@ Rs. 462 per ton.
	Gur	35,78,000	120,00,00,000	@ Rs. 336 per ton.
		Total Value Rs.	161,67,00,000	Rs. 161 Crores.

† Our estimates.

Per capita expenditure on sugar and gur works out to Rs. 4.

TABLE No. 5

Per capita consumption of Sugar in various countries (pre-war)

United Kingdom ...	106	lbs.	per head	Cuba	... 88	lbs.	per head
U.S.A. ...	97	"	"	Java	... 11	"	"
Brazil ...	34	"	"	Japan	... 33	"	"
France ...	52	"	"	Union of South Africa	47	"	"
Australia ...	116	"	"	Netherlands	... 64	"	"
Germany ...	52	"	"	India	6 (in addition to 24 lbs. *Gur*)		

TABLE No. 6

Yearly world production, consumption and the carry-over of stocks of Sugar (cane and beet) for the last 15 years in thousand tons (Raw Sugar Value)*

Crop year (Sept. 1st to Aug. 31st)	Opening Stocks (Sept. 1st)	Production	Consumption	Closing Stocks (Aug. 31st)	Percentage relation of stocks to Consumption
1932-33	12,069	24,692	26,193	10,568	40.3
1933-34	10,568	25,709	26,287	9,990	38.0
1934-35	9,990	26,191	27,188	8,993	33.1
1935-36	8,993	28,846	29,231	8,608	29.5
1936-37	8,608	30,818	30,549	8,877	29.1
1937-38	8,877	30,967	29,647	10,197	34.4
1938-39	10,197	29,478	29,406	10,269	34.9
1939-40	10,269	30,753	26,551	11,471	38.8
1940-41	...	30,498	...	...	...
1941-42	...	28,000	...	...	...
1942-43	...	28,000	...	...	...
1943-44	...	27,000	...	...	...
1944-45	...	26,000	...	...	...
1945-46	...	26,300	...	...	...
1946-47 (Est.)	...	30,646	...	...	...

(*In Thousands of Long Tons*)

Figures are in long tons (Long ton = 2,240 lbs.), (Metric ton = 2,205 lbs.), and (Short ton = 2,000 lbs.).

* Vide *International Sugar Journal*, July 1947. Lamborn's estimate (25th March 1947) for 1946-47 is 30,000,000 tons.

TABLE No. 7

Average and maximum percentage of recovery of Sugar in factories in India and Java from 1932-33 to 1946-47 *

Year	*India* Average	*U. P.* Average	*Bihar* Average	*Bombay* Average	*Java* Average	*India Maximum*
1932-33	8 66	8.55	8.60	10.00	11.56	10
1933-34	8.80	9.08	8.32	10.00	12 84	10
1934-35	8.66	8.56	8.79	10.37	12.55	11 10
1935-36	9.29	9.60	8 93	10.47	13.23	11.34
1936-37	9.50	9.65	9.20	10.68	12.77	11.43
1937 38	9.38	9.18	9.58	10.97	11 87	11.63
1938-39	9.29	9.14	9.00	11.29	11.77	12.25
1939-40	9.45	9.37	9.29	10.97	12.23	12.31
1940-41	9 70	9 87	9.86	9.94	...	11.15
1941-42	9.69	9.87	10.35	9.87	...	12.45
1942-43	10.28	10.16	10.93	10.64	...	13.35
1943-44	10.02	9.92	10.53	10.98	...	12.84
1944-45	10 21	10.20	10.69	10.79	...	11.84
1945-46	10.09	10.09	10 49	10.97	...	12.28
1946-47	9.86	10.02	10.09	10.48	...	...

* Vide *Indian Trade Journal*, Calcutta, 5th June 1947.

TABLE No. 8

Capacity of factories and duration of crushing season in India *

Average Cane-crushing capacity of Factory (calculated on the basis of tons of cane crushed per day of actual working) in India.		*Maximum* Cane-crushing capacity of Factories per day in India.	
Year	Tons	Year	Tons
1934-35	517	1934-35	2,012
1935-36	568	1935-36	1,807
1936-37	630	1936-37	1,960
1937-38	660	1937-38	2,000
1938 39	630	1938-39	1,850
1939-40	710	1939-40	1,960
1940-41	690	1940-41	1,980
1941-42	640	1941-42	1,800
1942-43	690	1942-43	1,920
1943-44	708	1943-44	1,903
1944-45	681	1944-45	1,940
1945-46	697	1945-46	1,927

Duration of Cane-crushing Season (October-May)	1934-35 No. of days	1935-36 No. of days	1936-37 No. of days	1937-38 No. of days	1938-39 No. of days	1939-40 No. of days	1940-41 No. of days	1941-42 No. of days	1942-43 No. of days	1943 44 No. of days	1944-45 No. of days	1945-46 No. of days
Mean duration of Cane-crushing season in *All-India* ...	104	126	138	112	83	129	113	85	101	117	98	93
Maximum duration of Cane-crushing season in *All-India* ...	172	179	203	181	184	203	264	313	278	255	232	185
Mean duration of Cane-crushing season in *U. P.*...	107	134	140	124	77	133	100	78	112	131	98	96
Mean duration of Cane-crushing season in *Bihar*...	109	4	150	99	79	136	100	54	96	93	78	79
Mean duration of Cane-crushing season in *"All other Provinces"* ...	90	112	138	103	97	119	144	117	89	110	111	96

* Vide *Indian Trade Journal*, Calcutta, dated 13th September 1945 and previous issues.

TABLE No. 9

Acreage under Sugar-cane, under improved varieties, production of cane per acre, gross production of Gur, and calculated production of Cane-crop * from 1931-32 to 1946-47

Year	Total acreage under sugar-cane in thousand acres	Acreage under improved varieties in thousand acres	Average cane production per acre (*in tons*)	Gross production expressed as gur (in thousand tons)	Calculated production of sugar-cane (10-11 factors) (in thousand tons)
1931—32 ...	3,076	1,170	14.1	4,116	43,316
1932—33 ...	3,425	1,845	14.9	4,859	51,129
1933—34 ...	3,422	2,295	15.3	5,055	52,455
1934—35 ...	3,602	2,433	15.1	5,292	54,346
1935—36 ...	4,154	3,056	15.3	6,102	61,202
1936—37 ...	4,582	3,452	15.6	6,932	67,322
1937—38 ...	3,997	2,968	15.5	5,579	55,637
1938—39 ...	3,270	2,673	15.0	3,572	35,851
1939—40 ...	3,788	2,893	15.0	4,849	47,732
1940—41 ...	4,749	3,529	15.0	5,992	60,668
1941—42 ...	3,671	2,831	15.0	4,549	46,491
1942—43 ...	3,755	3,004	15.0	5,323	54,295
1943—44 ...	4,389	3,545	13.8	6,063	61,782
1944—45 ...	4,305	3,604	13.2	5,679	57,699
1945—46 ...	3,825	2,589	14.0	5,416	......
1946—47 ...	4,108	......	......	5,576	......

* *Vide* "Indian Trade Journal", 10th October 1946 and 4th September 1947.

TABLE No. 10

Percentage of Cane used under different heads during the years 1932-33 to 1945-46 (November-October) **

—	1932-33	1933-34	1934-35	1935-36	1936-37	1937-38	1938-39	1939-40	1940-41	1941-42	1942-43	1943-44 (Our Est.)	1944-45 (Our Est.)	1945-46 (Our Est.)
Cane used in Factories ..	6.5	9.8	12.3	16.0	17.6	17.8	16.2	27.7	19.1	21.2	25.0	25.0	25.0	24.0
Cane equivalent to *gur* used in refineries ...	3.0	2.0	1.2	1.4	0.5	0.5	0.5	0.9	1.4	1.4	1.0	1.0	1.0	1.0
Cane used for *gur* manufacture ...	64.7	65.5	66.0	63.8	64.9	62.0	64.0	51.4	57.7	53.4	50.0	50.0	52.0	53.0
Cane used for other purposes, including *Khandsari*, Chewing, setts for planting etc.	25.8	22.7	20.5	18.8	16.9	19.7	19.3	20.0	21.8	24.0	24.0	24.0	22.0	22.0
Total percentage.	100	100	100	100	100	100	100	100	100	100	100	100	100	100

** *Vide* Reply in the Council of State to Question No. 39, dated 11th November 1941.

TABLE No. 11

Percentage of Cane crushed in factories to the total Cane-crop in various Provinces *

Season	U.P.*	Bihar*	Bombay	Bengal	Madras	India
1934—35	13.6	30 9	8.0	2.7	5.0	12.3
1935—36	17.1	40.4	11.7	4 8	5.4	16.0
1936—37	17.1	49.3	13.0	5 2	6.0	17.6
1937—38 (Our Est.) ..	18.6	62.3	14.0	......	......	17.8
1938—39	14.5	44.5	......	......	......	19.5
1939—40	25.5	48.4	......	......	......	27.7
1940—41	13.9	29.3	......	......	......	19.1
1941—42	14.6	......	......	......	......	21.2
1942—43	21.9	......	......	......	......	25.0
1943—44	25.7	......	......	......	......	25.0
1944—45	21.4	......	......	......	......	......
1945—46	23.2	......	......	......	......	......
1946—47	21.9	......	......	......	......	......

* Figures based on Cane Development Department (U.P.) statement showing disposal of cane crop in the U.P. during 1934 to 1942 and on letters from Cane Commissioner, U.P., to Chairman, Sugar Commission, U.P. and Bihar, in 1945, 1946 and 1947.

TABLE No. 12

Cost of production of Cane per maund in India

(*a*) Definite figures are not available. Cost of production varies from Province to Province from annas 0-3-0 to annas 0-7-0 per maund. (*Vide* 1939 Annual.)

(*b*) Enquiry undertaken by the Imperial Council of Agricultural Research in 1934, was concluded in 1938. Reports of cost in various Provinces were published in 1938 and 1939, and also referred to in Tariff Board's Report of 1937.

(*c*) Cost considerably increased since 1942, due to inflation, and soaring up of general price level.

TABLE No. 13

Estimate of total amount of money paid by Sugar factories to Cane-cultivators and workers, since 1932-33 to 1946-47

Season	Estimated average price per maund of cane in U. P. and Bihar	Estimated amount paid for cane by factories to Cultivators (1)	No. of unskilled workers employed (2)	Estimated amount of wages paid to unskilled workers (3)
	Rs. a. p.	Rs.	No.	Rs.
1932—33	0 5 6	3,14,39,000	29,640	1,778,000
1933—34	0 5 6	4,83,98,000	67,200	4,032,000
1934—35	0 5 3	5,97,66,000	78,200	4,680,000
1935—36	0 5 3	8,81,03,000	82,200	4,932,000
1936—37	0 4 5	8,92,19,504	100,000	6,000,000
1937—38	0 5 1	8,57,53,775	100,000	6,000,000
1938—39	0 6 10	8,13,00,988	100,000	6 000,000
1939—40	0 8 5	18,81,09,460	100,000	7,000,000
1940—41	0 4 8	8,96,40,583	100,000	5,650,000
1941—42	0 7 0	6,15,00,000	100,000	4,000,000
1942—43	0 10 0	13,00,00,000	100,000	5,000,000
1943—44	0 12 0	18,00,00,000	100,000	5,500,000
1944—45	0 14 0	23,00,00,000	90,000	6,200,000
1945—46	0 15 0	24,56,00,000	100,000	6,600,000
1946—47	1 4 0	33,00,00,000	120,000	9,000,000

(1) Based on statistics received from a large number of factories in U.P. and Bihar.

(2) Based on an assumption of an average factory employing about 600 workers.
(3) Based on an estimate of payment of 0-8-0 per day (upto 1941-42), and on the average working period of the season. After 1941-42, the estimate is on a 25 per cent higher basis.
(4) Dearness and allowances were increased by 50 per cent in 1942-43 and 1943-44, and still more in 1945-46 and 1946-47.

TABLE No. 14

Import Duties on Sugar in Principal Countries in the World, and in India

As there have been so many changes due to the war in regard to the duties on sugar in the various countries, we are not giving the full table here. A reference may be made to the 1939 Annual for the import duties on sugar then existing.

The following table gives the present duties in India :—

Total Import Duty and Excise Duty on Sugar in India (1947-48) :—

Total Import Duty including 20 per cent surcharge on protective Import Duty and equivalent excise duty, with 20 per cent surcharge thereon		Rs. 11 11 2	per cwt.
	equivalent to	Rs. 8 9 6	per maund.
Excise Duty on factory sugar in British India		Rs. 3 0 0	per cwt.
	equivalent to	Rs. 2 3 3	per maund.

The present import duty will continue till 31st March 1948 under the Sugar Industry Protective Duty Continuation Act, 1947.

TABLE No. 15

Excise Duty and Import Duty on Sugar, Sugar Candy * and Molasses in India

On Sugar per cwt.	Protective Import Duty per cwt.	Additional Duty per cwt.	Total Import Duty per cwt. Rs.
From 1st April, 1932 to 31st March, 1934	Rs. 7-4-0	Revenue surcharge @ 25% of protective duty Rs. 1-13-0	9-1-0
From 1st April, 1934 to 27th February, 1937 (Rs. 1-5-0 Excise Duty on domestic production of factory sugar)	7-12-0 (0-8-0 being additional margin)	Equivalent excise duty Rs. 1-5-0	9-1-0
From 28th February, 1937 (Rs. 2-0-0 Excise Duty on domestic production of factory sugar)	7-4-0	Equivalent excise duty Rs. 2-0-0	9-4-0
From 1st April, 1939 (Rs. 2-0-0 Excise Duty on domestic production of factory sugar)	6-12-0	Equivalent excise duty Rs. 2-0-0	8-12-0
From 1st March, 1940 (Rs. 3-0-0 Excise Duty on domestic production of factory sugar)	6-12-0	Equivalent excise duty Rs. 3-0-0	9-12-0†
From 1st April, 1942 (Rs. 3-0-0 Excise Duty on domestic production of factory sugar)	6-12-0	Revenue surcharge of 20% on import duty and Equivalent excise duty of Rs. 3, with 20% surcharge thereon	11-11-2‡

* From 20th February 1934, a revenue duty of Rs. 10-8-0 per cwt. was imposed on *sugar candy* in place of Rs. 9-1-0 per cwt. The rate of import duty on *molasses* is 31¼ per cent *ad valorem* since April 1932.

†The import duty of Rs. 11-11-2 per cent per cwt. works out at Rs. 8-9-6 per maund and Rs. 3-0-0 excise duty per cwt. works out at Rs. 2-3-3 per maund.

This import duty has been continued till 31st March 1948, on the recommendations of the Tariff Board of 1947, by the Government of India.

‡ Total import duty including surcharge of 20 per cent as from 1st April 1942.

TABLE No. 16

Yield of Revenue from Import Duty on Sugar in India from 1931-32 to 1946-47 (Burma excluded from 1937-38)

Year (April-March)	Yield of Revenue Rs.	Year (April-March)	Yield of Revenue Rs.
1931-32	7,97,63,000	1940-41	18,24,000
1932-33	6,84,79,000	1941-42	1,94,000
1933-34	4,72,04,000	1942-43	56,000
1934-35	3,81,35,040	1943-44	4,14,000
1935-36	3,24,16,000	1944-45	1,000
1936-37	50,52,000	1945-46	14,000
1937-38	25,33,000	1946-47	2,000
1938-39	45,22,000	1947-48 (Budget Est.)	5,000
1939-40	3,96,08,000		

TABLE No. 17

Excise Duty on all Sugar produced in British India and Yield of Revenue therefrom from 1938-39 to 1947-48 Fiscal year (April-March)

Amount of duty on Sugar	Yield of Revenue from Excise Duty (in Thousand Rupees)									
	1938-39	1939-40	1940-41	1941-42	1942-43	1943-44	1944-45	1945-46	1946-47	1947-48 (Budget est.)
	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	
Khandsari:	59	1,46	2,86	4,43	1,57	5,09	9,90	2,27	2,39	5,84,00
Factory:	4,22,44	2,47,60	3,90,11	6,68,27	4,81,84	7,19,41	7,68,59	6,08,83	6,19,86	
Total ..	4,23,03	2,49,06	3,92,97	6,72,70	4,83,41	7,24,60	7,78,49	6,11,10	6.22,25	5,84,00

TABLE No. 18

Average price of Indian and Imported Sugar in India per maund of 82-2|7 lbs.

	1936 Rs.	1937 Rs.	1938 Rs.	1939 Rs.	1940 Rs.	1941 Rs.	1942 Rs.	1943 Rs.	1944 Rs.	1945 Rs.	1946 & 1947 Rs.
Indian 1st quality Special (Cawnpore market average quotation) (Factory Delivery Basis)	8-4-0	7-0-0	8-8-0	10-12-0	10 8-0	11-0-0	13-0-0	14-8-0	16-0-0 for D24	16-4-0 for D24	20-14-0 for D24
Imported Sugar (Calcutta market average quotation)	9-12-0	9-10-0	10-8-0	11-0-0	11-0 0	...	...	...			

TABLE No. 19

Average Price of Gur per maund in 1941-42, 1942-43 1943-44, 1944-45, and 1945-46.

Gur Market	1941-42 Rs. a. p.	1942-43 Rs. a. p.	1943-44 Rs. a. p.	1944-45 Rs. a. p.	1945-46 Rs. a. p.
Madras ...	4 2 6	9 6 10	9 10 0	9 4 5	15 12 5
Ahmednagar ...	6 5 8	14 14 6	15 9 9	12 4 6 1/4	13 12 7
Lyallpur ...	4 0 6 (No quotation) for Feb., June, July, August, Sep. '42	10 7 7	10 4 5	10 13 7 5/6	17 9 9
Muzaffarnagar ...	5 13 9	8 15 6	6 12 11	9 7 5 1/4	12 9 3
Meerut ...	5 12 10 (No quotation) for March and Sep. '42	9 0 1	7 6 0	8 12 10 1/2	10 11 6
Bhagalpur ...	5 10 3 (No quotation) for May, June, July and Sept. '42	11 4 4	8 5 6	8 3 7 2/11	12 14 3
Dacca ...	9 7 7	......	......	26 4 4 1/11	25 9 4

* *Vide* Imperial Institute of Sugar Technology Letter No. 3161|Stat of 1-7-1947.

TABLE No. 20

Approximate Official Estimate of total Carry-over of Stocks of Sugar in India at the beginning of November, from 1931 to 1946

Year		Tons	Year		Tons
1931	...	32,000	1939	...	105,000
1932	...	19,000	1940	...	390,000
1933	...	9,000	1941	...	295,000
1934	...	30,000	1942	...	105,000
1935	...	23,000	1943	...	133,863
1936	...	159,000	1944	...	265,802
1937	...	211,000	1945	...	83,072
1938	...	102,000	1946	...	99,093

TABLE No. 21

Estimated Percentage of Gate-cane to the Total Quantity of Cane (i.e. Gate-cane and Rail-borne cane) crushed in Factories in the various Provinces *

Province	1934-35 %	1935-36 %	1936-37 %	1937-38 %	1938-39* %	1939-40† %	1940-41 %	1941-42 %	1942-43 %	1943-44 %	1944-45 %	1945-46 %
Bihar ...	48	50	58	53	53	53	65	63	70	70	75	75
U. P. ...	65	66	68	72	66	62	69	80	85	85	85	80
Bengal ...	22	26	45	55	54	33	32	52	60	60	60	60
Punjab ...	...	51	61	69	57	47	55	80	80	80	80	80
Bombay ...	100	100	100	100	100	99	100	100	100	100	100	100
Madras ...	...	35	67	71	72	75	67	60	65	65	65	70

* Compiled by the Indian Sugar Syndicate Ltd. in September 1939.
† Compiled by us from the returns made by factories in 1939-40, 1940-41, 1941-42, 1942-43, 1943-44, 1944-45, and 1945-46.

TABLE No. 22

Statement showing Expenditure on Sugar Research by the Imperial Council of Agricultural Research and Indian Central Sugarcane Committee *

Year	Amount spent	Remarks for expenditure in 1945-46 and 1946-47
	Rs.	
1935-36	4,79,088	Since 1945-46, when the Indian Central Sugarcane Committee was established, the expenditure is shown under separate heads. Thus in 1945-46 and 1946-47 Rs. 2,85,000 and Rs. 4,30,000 were spent for Agricultural Research Schemes, Rs. 4,48,000 and Rs. 5,84,000 for Technological Research Schemes, and Rs. 2,75,000 and Rs. 1,80,000 for Development Schemes.
1936-37	3,88,627	
1937-38	3,46,820	
1938-39	3,24,928	
1939 40	3,56,790	
1940-41	3,19,304	
1941-42	3,74,580	
1942-43	3,57,446	
1943-44	4,26,828	
1944-45	4,11,700	
1945-46	10,09,000	
1946-47	11,94,000	

* Figures collected from official sources and furnished by Secretary, Imperial Council of Agricultural Research (*Vide* letter No. F.66(14)|43D, dated 16th January 1945), and No. F.90(20)|47-1337, dated 10th April 1947 from the Indian Central Sugarcane Committee, 3, Pusa Road, New Delhi for 1945-46 and 1946-47.

TABLE No. 23

Yields of Cane and Sugar per Acre and Recoveries in Different Countries *

Country	Yields of cane per acre		Recovery per cent cane	Yields of Sugar per acre	
	Tons	Mds.		Tons	Mds.
Cuba ...	17.12	465.9	12.25	2.095	57.03
Louisiana ...	19.84	539.8	8.06	1.602	43.58
Puerto Rico ...	24.16	657.7	12.23	2.956	80.44
Hawaii ...	62.05	1,689 0	10.46	6.489	176.6
Trinidad ...	...	...	10.69	...	...
Mexico ...	19.54	531.8	9.20	1.817	49.44
Martinique ...	17.93	487.8	8.13	1.458	39.68
Haiti ...	...	...	10.92	...	...
Argentine ...	13.05	355.1	9.89	1.290	35.13
Brazil ...	15.68	426.8	4.97	0.741	19.71
Peru ...	41.14	1,119.0	12.33	5.076	138.10
Egypt ...	30.42	827.9	9.97	3.032	82.50
Mauritius ...	19.63	534.3	12.08¼	2.370	64.51
S. Africa ...	22.36	608.4	10.90	2.439	66.36
Reunion ...	13.20	359.2	10.93	1.390	37.84
Java ...	56.20	1,530.0	11 49	6.440	175.30
India ...	14.70	399.9	9.50	1.394	37.95
Philippines ...	27.08	737.0	8.45	2.287	62.23
Japan and Formosa ...	28.27	769.3	12.93	3.657	99.51
Australia ...	21.34	580.9	14.33	3.060	83.08

* *Vide*, Report on Survey of Sugarcane, 1946.

TABLE No. 24

Java Sugar Statistics from 1935-36 to 1948-49.

(In Thousands of Long Tons)

Crop-year	Initial Stock on 1st April	Production	Exports	Local consumption	Final stock on 31st March
1935-36 ...	1,585	505	863	285	942
1936-37 ...	942	583	975	309	241
1937-38 ...	241	1,392	1,017	306	309
1938-39 ...	309	1,376	1,163	315	206
1939-40 ...	206	1,550	1,214	304	238
1940-41 ...	238	1,579	837	351	628
1941-42 }					
1942-43 } ...	705	2,237	1,517		
1943-44 }			(Total of Exports	& Consumption)	1,500
1944-45 ...	1,500	84	...	...	...
1945-46 ...	...	25	...	...	...
1946-47 ...	...	25 }	...	600	980 (?)*
1947-48 (Est.)	980 (?)*	25 } ...	200	(Estimated)	
1948-49 („)	...	50 }	(Maximum possible export)		

Vide *International Sugar Journal*, London, May and December 1946; and *Indian Trade Journal*, 3rd April 1947; Lamborn's *Weekly Sugar Market Report* of 22nd April 1947 and 22nd July 1947 (from New York). Harvesting of cane starts in Java in May.

* Latest reports indicate a stock of only 3,00,000 tons

TABLE No. 25

Total Production, Import and Export of Molasses in India *

from 1932-33 to 1946-47

Year	Production of Molasses in India in Thousand Tons				Imports of Molasses into British India (Tons)	Export of Molasses from British India (including Palmyra and cane jaggery) (Tons)
Nov.-Oct.	From Cane Factory	From Gur Refineries	From Khandsari †	Total †	Apr.-Mar.	Apr.-Mar.
1932-33 ..	130	56	275	461	31,991	819
1933-34 ...	190	40	209	430	2,401	1,201
1934-35 ...	234	22	150	406	415	1,153
1935-36 ..	337	33	125	495	Nil	1,026
1936-37 ...	406	10	100	516	Nil	24,195
1937-38 ...	349	8	125	482	5	79,167
1938-39 ...	242	6	100	348	2,160	52,676
1939-40 ..	485	7	125	627	2,000	16,000
1940-41 ...	424	32	100	556	...	...
1941-42 ...	293	7	100	400	...	...
1942-43 ...	369	2	214	585	...	...
1943-44 ...	438	3	150	592	...	...
1944-45 ...	328	3	125	456	...	...
1945-46 ...	338	2	111	451		
1946-47 ...	330	2	100	432		

* After 1936-37, statistics regarding Burma are excluded.

† Official estimates.

Vide *Indian Trade Journal*, 5th June 1947.

TABLE No. 26

Total value of Sugar Machinery imported in British India from 1932-33 to 1945-46

(In Thousands of Rupees)

Source	1932-33	1933-34	1934-35	1935-36	1936-37	1937-38	1938-39	1939-40
	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
U. K.	91,48	1,95,87	73,60	49,70	68,49	43,15	30,16	......
Other Countries ...	61,63	1,40,51	31,84	16,00	26,66	26,21	31,20	......
Total ...	1,53,11	3,36,38	1,05,45	65,70	95,16	69,37	61,36	50,84

Source	1940-41	1941-42	1942-43	1943-44	1944-45	1945-46
	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
U. K. ... / Other Countries } Total ..	40,87	20,41	7,73	8,20	11,07	30,43

TABLE No. 27

Calculated Net Production * of Gur in India for direct consumption, from 1931-32 to 1946-47

Year (November—October)		Calculated net Annual Production of *Gur* for direct consumption (in Tons)	Year (November—October)		Calculated net Annual Production of *Gur* for direct consumption (in Tons)
1931-32	...	2,758,000	1939-40	...	2,441,000
1932-33	...	3,240,000	1940-41	...	3,414,000
1933-34	...	3,486,000	1941-42	...	2,829,000
1934-35	...	3,701,000	1942-43	...	3,015,000
1935-36	...	4,101,000	1943-44	...	3,499,000
1936-37	...	4,268,000	1944-45	...	3,633,000
1937-38	...	4,364,000	1945-46	...	3,578,000
1938-39	...	2,131,000	1946-47	...	3,630,000

* The net production of *gur* is calculated by deducting from the total yield of cane expressed in terms of *gur*, and published in the "Final General Memorandum on the production of the Principal Crops in India," by the Director-General, Commercial Intelligence and Statistics, the *gur* equivalent of the cane used for purposes other than *gur* manufacture. *Vide* letter No. 3174|stat., dated 2nd July 1947, from the Director, Imperial Institute of Sugar Technology, Cawnpore, to the Chairman, Sugar Commission, U.P. and Bihar, Cawnpore, for figures from 1944-45 to 1946-47.

TABLE No. 28

Cane Factory Production of Sugar in U.P., Bihar and All-India (in Tons) from 1931-32 to 1946-47

Season	U. P.	Bihar	All-India	Total quantity of *cane* crushed in all factories in tons
1931-32 ...	66,312	75,091	1,58,581	17,83,000
1932-33 ...	1,40,344	1,28,610	2,90,177	33,50,000
1933-34 ...	2,73,774	1,39,957	4,53,965	51,57,000
1934-35 ...	3,15,600	1,84,038	5,78,115	66,72,000
1935-36 ...	5,30,000	2,50,200	9,32,100	98,01,000
1936-37 ...	6,08,600	3,29,300	11,11,400	1,10,87,000
1937-38 ...	5,31,300	2,25,300	9,30,700	99,16,400
1938-39 ...	3,20,300	61,600	6,50,800	70,04,800
1939-40 ...	6,59,500	3,22,100	12,41,700	1,31,31,700
1940-41 ...	5,13,300	2,46,100	10,95,400	1,12,90,900
1941-42 ...	3,82,900	1,17,300	7,78,100	80,26,300
1942-43 ...	6,12,500	2,37,400	10,70,700	1,04,18,500
1943-44 ...	7,27,100	2,12,400	12,16,400	1,21,37,800
1944-45 ...	5,28,900	1,69,900	9,53,500	93,43,300
1945-46 ...	5,25,600	1,78,600	9,44,800	93,59,500
1946-47 *(Est.)	5,20,420	1,50,500	9,28,200	94,12,400

* *Indian Trade Journal*, 5th June 1947.

TABLE No. 29

Prices likely to be increased in 1947-48.

Revised Prices of Sugar,† 1946-47

(From 23rd October 1946)

1. For the sugar produced by all Vacuum-pan sugar factories in British India other than those situated in the N.W.F. Province * from 23rd October 1946 †:—

(*a*) Price per maund of crystal sugar for sale ex-factory according to the grade :—

—	21			22			23			24			25			26			27			28			29		
	Rs.	a.	p.	Rs.	a.	p.	Rs.	a.	p.	Rs.	a.	p.	Rs.	a.	p.	Rs.	a.	p.	Rs.	a.	p.	Rs.	a.	p.	Rs.	a.	p.
AA...		...			...		21	4	6	21	6	0	21	8	0	21	9	6	21	11	6	21	13	0	21	15	0
A ...	20	14	6	21	2	6	21	2	6	21	4	0	21	6	0	21	7	6	21	9	6	21	11	0	21	13	0
B ...	20	12	0	20	14	0	21	0	0	21	1	6	21	3	6	21	5	0	21	7	0	21	8	6	21	10	6
C ...	20	10	0	20	12	0	20	14	0	20	15	6	21	1	6	21	3	0	21	5	0	21	6	6	21	8	6
D ...	20	8	6	20	10	6	20	12	6	20	14	0	20	15	6	21	1	6	21	3	6	21	5	0	21	7	0
E ...	20	7	0	20	9	0	20	11	0	20	12	6	20	14	6	21	0	0	21	2	0	21	3	6	21	5	6
F ...	20	6	0	20	8	0	20	10	0	20	11	6	20	13	6	20	15	0	21	1	0	21	2	6	21	4	6
G ...	20	5	0	20	7	0	20	9	0	20	10	6	20	12	6	20	14	0	21	0	0	21	1	6	21	3	6

(*b*) Price per maund of crushed sugar for sale ex-factory according to the grade :—

Grade	Price per maund.
	Rs. a. p.
13	21 3 0
12	21 0 0
11	20 14 0

(*c*) Price per maund of refined sugar for sale ex-factory according to the grade :—

Grain Size	27	28	29
	Rs. a. p.	Rs. a. p.	Rs. a. p.
AA	22 5 0	22 7 0	22 9 0
A	22 3 0	22 5 0	22 7 0
B	22 1 0	22 3 0	22 5 0
C	21 15 0	22 1 0	22 3 0
D	21 13 0	21 15 0	22 1 0
E	21 12 0	21 14 0	22 0 0
F	21 11 0	21 13 0	21 15 0
G	21 10 0	21 12 0	21 14 0

† Government of India, Food Department, Notification No. 20-SC(32)|46, dated New Delhi, 23rd October 1946.

* The price for sugar produced by sugar factories in the N.W F. Province has been fixed at Rs. 3-2-0 per maund higher than the above prices. Thus D24, in the N.W.F. Province has been fixed at Rs. 24-0-0 as against Rs. 20-14-0 elsewhere in India

The prices of sugar for the factories in the Punjab and Kapurthala State were fixed as follows, due to the shortage of cane supplies, low recovery and higher cane prices.

Abdullapur Rs. 21-12-0, Phagwara Rs. 23-8-0, Hamira Rs. 26-8-0 and Rahwali Rs 27-8-0 per maund.

D24 which is the Standard Sugar is thus fixed at Rs. 20-14-0 per maund

TABLE No. 30

Production of Sugar directly from Cane in Modern Factories in India, 1929-30 to 1947-48, and Recovery Percentage for Java

Season	Number of Factories producing Sugar direct from cane	Cane crushed	Sugar produced	Percentage Recovery for India	Percentage Recovery for Java
		Tons	Tons		
1929-30 ...	27	989,776	49,768	9.07	11·76
1930-31 ...	29	1,317,248	119,859	9.00	10.92
1931-32 ...	32	1,783,499	158,581	8.89	11.56
1932-33 ...	57	3,350,231	290,177	8.66	12.84
1933-34 ...	112	5,157,873	453,965	8.80	12.55
1934-35 ...	130	6,572,000	578,115	8.66	13.23
1935-36 ...	137	9,801,748	932,100	9.29	12.77
1936-37 ...	137	11,687,200	1,111,400	9.50	11.87
1937-38 ...	136	9,916,400	930,700	9.38	11.77
1938-39 ...	139	7,001,800	650,800	9.29	12.23
1939-40 ...	145	13,131,700	1,241,700	9.45	(Not Available)
1940-41 ...	148	11,290,900	1,095,400	9.70	
1941-42 ...	150	8,026,300	778,100	9 69	
1942-43 ...	150	10,418,000	1,070,700	10.28	
1943-44 ...	151	12,137,800	1,216,400	10.02	
1944-45 ...	140	9,343,300	953,500	10.21	
1945-46 ...	145	9,359,500	944,800	10.09	
1946-47 (Est.) ...	141	9,412,400	928,200	9 86	
1947-48 (Our est.)...	140	9,500,000	950,000	10.00	

TABLE No. 31

Recovery of Sugar from Cane during 1935-36 to 1946-47

Provinces	Recovery of Sugar per cent Cane											
	1935-36	1936-37	1937-38	1938-39	1939-40	1940-41	1941-42	1942-43	1943-44	1944-45	1945-46	1946-47* (Estd.)
U. P. ...	9·60	9.65	9·18	9.14	9.37	9.87	9.87	10.16	9.92	10.20	10.09	10.02
Bihar ...	8.93	9.20	9.58	9.00	9.29	9.86	10.35	10.93	10.53	10.69	10.53	10.09
"All other Provinces"	9.00	9.60	9.77	9.91	9.88	9.34	9.22	9.95	9.94	9.92	9.84	9.44
All-India ...	9.29	9-50	9.38	9.29	9.45	9.70	9.69	10.28	10.02	10.21	10.09	9.86

* *Indian Trade Journal*, 5th June 1947.

TABLE No. 32

An interesting Table showing variations in *Per Capita* Consumption of Gur and Sugar in certain Rural and Urban Areas* in pre-war period (1937-38)

Name of Province	Gur		Sugar	
	Urban areas (lb.)	Total for the Province (lb.)	Urban areas (lb.)	Total for the Province (lb.)
United Provinces	13·2 (1)	53·9	58·1 (2)	8·3
Punjab	18·0 (3)	23·3	50·4 (4)	12.8
Bengal	15·4 (5)	22 8	85·5 (5)	6·3
Madras	8·9 (6)	12·1	51·2 (6)	4·4
Bombay	12·4 (7)	14·4	81·4 (7)	16.3
Sind	6·0 (8)	7·2	82.1 (8)	17.8

(1) 22 markets, (2) 29 markets, (3) 6 markets, (4) Delhi, (5) Calcutta, (6) Madras, (7) Bombay, (8) Karachi.

*Report on the Marketing of Sugar published by Central Agricultural Marketing Department (Government of India), 1943, p. 130.

TABLE No. 33

Value of imports of Sugar,* Revenue from imports, and Rate of Import Duty on Sugar from 1920-21 to 1946-47

Year April-March	Value of foreign Sugar (net) imported in British India in Lakhs of Rupees*	Revenue from Import Duty on Sugar in Lakhs of Rupees†	Rate of Import Duty
1920-21 ...	1,850	185	10 p.c. *ad valorem*
1921-22 ...	2,750	412	15 p.c. *ad valorem*
1922-23 ...	1,549	487	25 p.c. *ad valorem*
1923-24 ...	1,545	486	" "
1924-25 ...	2,090	578	" "
1925-26 ...	1,520	659	Rs. 4-8-0 per cwt.
1926-27 ...	1,534	744	" "
1927-28 ...	1,450	653	" "
1928-29 ...	1,586	782	" "
1929-30 ...	1,836	846	" "
1930-31 ...	1,047	1,081	Rs. 6-0-0 per cwt.
1931-32 ...	590	798	Rs. 9-1-0 " (Rs. 7-4-0 being protective and Re 1-13-0 being revenue surcharge from 1st April 1932.)
1932-33 ...	422	685	" "
1933-34 ...	270	472	" "
1934-35 ...	210	381	Rs. 9-1-0 per cwt. (Rs. 7-12-0 being protective & Re. 1-5-0 being equivalent excise duty from 1st April 1934.)
1935-36 ...	190	324	" "
1936-37 ...	23	51	" "
1937-38 ...	18	25	Rs. 9-4-0 per cwt. (Rs. 7-4-0 being protective and Rs. 2-0-0 being equivalent excise duty from 28th February 1937.)
1938-39 ...	45	45	" "
1939-40 ...	331	396	Rs. 8-12-0 per cwt. (Rs. 6-12-0 being protective & Rs. 2-0-0 being equivalent excise duty. (With effect from 1st April 1939.)
1940-41 ...	36	18	Rs. 6-12-0 being protective and Rs. 3-0-0 being equivalent excise duty. (With effect from 1st March 1940.)
1941-42 ...	107	1·9	Rs. 9-12-0 per cwt.
1942-43 ...	...	·5	Rs. 11-11-2 per cwt. with effect from 1st April 1942 (i.e. including 20% surcharge on ordinary import duty of Rs. 6-12-0) and Rs. 3-0-0 being equivalent excise duty, and 20% surcharge thereon.
1943-44 ...	...	4·1	
1944-45 ...	...	·01	
1945-46 ...	...	·14	
1946-47 ...	...	·02	

* Annual statement of sea-borne trade (Burma excluded from 1937-38).

TABLE No. 34

INTERNATIONAL FOOD EMERGENCY COUNCIL

Sugar: 1947 Recommended Distribution by source of supply (June 9th, 1947)‡

(In thousands of short tons raw value)

CLAIMANT COUNTRY	Total recommended allocation	Indigenous supplies	Australia and Fiji	Belgian Congo	B. W. I.	Cuba	Czechoslovakia	Denmark	Dominican Republic	F. W. I.	Haiti	Peru	Puerto Rico & Virgin Islands	Reunion	Hawaii	Undesignated
	SOURCE OF SUPPLY															
Albania ...	5						5									
Austria ...	67	31					18									18
Belgium ...	247	240		7												
Canada ...	633	107	48*		200*	204*			74*							
Finland ...	67	6				61										
France		752														
French N. Africa	1,052	30				142	13			65				50		
French colonies ...																
Germany ...	425	425														
Greece ...	73					51	22									
Hungary ...	69	51					18									
India † ...	1,340	1,140														200
Ireland ...	100	55										27				18
Italy ...	357	357														
Japan ...	60	10				25										25
Korea ...	50					25										25
Netherlands ...	303	230				40										33
Norway ...	99					50	25	24								
Phlippines ...	127	97				30										
Sweden ...	330	320						10								
Switzerland ...	168	27				88	43									10
U. K. ...	2,546	582			360*	1,220*			359*		25*					
U. S. A. ...	7,150	1,760				3,696							894		800	
Yugoslavia ...	72	19					13									40
TOTAL ...	15,340	6,239	48	7	560	5,632	157	34	433	65	25	27	894	50	800	369

* Supplies from these sources interchangeable between U.K. and Canada.

† India received 30,000 tons from Cuba towards the end of 1947, at controlled rates.

‡ *Vide* Lamborn, Weekly Sugar Market Report, 17th June 1947.

TABLE No. 35

Statement showing Sugar Production and Quotas allotted for the Civilian Consumption During 1946-47, by the Sugar Controller §

(PROVISIONAL)

S. No.	Areas	Production during 1946-47 (Tons)	Quota from local production (Tons)	Quota from U. P. & Bihar (Tons)	Total quota for civilian consumption for 46-47 (Tons)
1	2	3	4	5	6
1.	Assam	......	......	16,700	16,700
2.	Baluchistan	......	......	4,220	4,220
3.	Bengal & Bengal States ...	18,550	18,550	1,13,650	1,32,200
4.	Bombay & States	80,705	80,705	92,495	1,73,200
5.	Central India	14,673	14,673	7,527	22,200
6.	C. P. & States	......	......	32,900	32,900
7.	Delhi	......	......	16,300	16,300
8.	Hyderabad †	16,365	18,000	Nil	18,000
9.	Jammu & Kashmir	775	775	4,925	5,700
10.	Madras & States	62,318	61,560	37,040	98,600
11.	N. W. F. P.	4,477	4,477	11,223	15,700
12.	Orissa	2,264	2,264	5,136	7,400
13.	Punjab & States	15,225	15,225	1,23,617	1,38,842
14.	Rajputana...	3,646	3,646	31,754	35,400
15.	Sind & States	......	......	26,100	26,100
16.	U. P. & States	5,52,194	1,12,200	......	1,12,200
17.	Bihar	1,48,245	49,000	......	49,000
	Total ...	9,19,437	3,81,075	5,23,587	9,04,662

§ This is provisional and is adjusted from time to time. For quotas of previous years, see previous *Annuals*.

† Quota allotted was 18,000 tons on the basis of expected local production of 18,000 tons. The actual production is only 16,365 tons

TABLE No. 36

Provisional Allocations of Gur for Supply to Deficit Areas during the year 1946-47 (Figures in Tons)

S. No.	Name of Area	From U. P.	From Madras	From Kolhapur	From N.-W.F.P.*	Total
1.	Ajmer-Merwara ...	6,000	...	...	...	6,000
2.	Assam ...	10,000	...	...	...	10,000
3.	Baluchistan ...	...	...	...	6,000	6,000
4.	Bangalore ...	...	200	...	...	200
5.	Baroda ...	...	...	12,000	...	12,000
6.	Bengal ...	34,000	16,000	...	...	50,000
7.	Bengal States ...	1,000	...	...	...	1,000
8.	Bombay ...	...	...	20,000	...	20,000
9.	C. I. States ...	10,000	...	...	...	10,000
10.	C. P. & Berar ...	24,000	16,000	...	...	40,000
11.	Chhatisgarh States ...	1,500	...	...	...	1,500
12.	Cochin ...	...	7,500	...	...	7,500
13.	Coorg ..	...	200	...	...	200
14.	Delhi ...	7,500	...	...	...	7,500
15.	Gujerat States ...	...	...	5,000	...	5,000
16.	Gwalior ...	7,000	...	...	...	7,000
17.	Hyderabad ...	...	10,000	...	...	10,000
18.	Kashmir ...	...	...	...	6,000	6,000
19.	Orissa & States ...	...	6,000	...	...	6,000
20.	Punjab ...	65,000	...	...	...	65,000
21.	Punjab States ...	10,000	...	...	...	10,000
22.	Rajputana ...	50,000	...	800	...	50,800
23.	Sind ...	16,000	...	300	...	16,300
24.	Travancore ...	...	4,000	...	...	4,000
25.	W. I. States ...	8,000	...	10,000	...	18,000
26.	Goa ...	...	...	500	...	500
	Total ...	†2,50,000	59,900	48,600	12,000	3,70,500

* Exports can be made freely from N.-W.F.P. to Punjab.

† In addition 1,598 tons have been allotted for export to Nepal, Sikkim, Tibet and Andaman and Nicobar Islands.

TABLE No. 37

Net Calculated Production of Gur in the Various Tracts of India in 1943-44 to 1945-46 (Figures in Tons)

Areas	1943-44	1944-45	1945-46
U. P.	16,06,000	13,56,000	12,59,000
Punjab	3,98,000	4,82,000	5,32,000
Bihar	1,40,000	1,21,000	1,31,000
Bengal	4,22,000	3,71,000	4,31,000
Madras	3,36,000	3,56,000	3,17,000
Bombay	3,31,000	3,50,000	3,27,000
N.-W. F. P.	81,000	87,000	86,000
Central Provinces	37,000	45,000	48,000
Orissa	52,000	49,000	52,000
Sind	2,000	1,000	1,000
Mysore	44,000	45,000	44,000
Hyderabad	1,04,000	99,000	1,02,000
Assam	54,000	62,000	59,000
Total ...	36,07,000	34,24,000	33,89,000

TABLE No. 38

Wholesale Prices of Wheat, Rice, Sugar, Gur and Sugarcane in Bihar and United Provinces from 1939 to 1947, along with Index Numbers of Prices.

—	Wheat, Dara (Hapur) per md.	Rice (Coarse) (Patna) per md.	Sugar, Marhowrah (Cawnpore) per md.	Gur, Eating (Muzaffar-nagar) per md.	Sugar Cane (U.P. & Bihar) per md.
	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.
Aug. 1939 (Base) Index Price	100	100	100	100	100
Aug. 1939	2 -9-9	3-0-0	9-13-0	8- 4- 0	0- 7-0
Sep. 1939	2-15-3	3-4-0	10-14-0	8- 8- 0	0- 7-0
Sep. 1940	3- 3-6	4-5-0	9- 4-0	4- 8- 0	0- 5-6
Sep. 1941	4- 0-9	5-6-0	9-12-0	3-10- 0	0- 5-0
Sep. 1942	5- 0-0	7-4-0	12- 4-0	10- 0- 0	0- 8-0
Sep. 1943	13-10-0	20-0-0	14- 9-0	11- 0- 0	9-10-0
Sep. 1944	9-12-0	11-12-0	15- 6-0	7-11- 0	0-12-0
Sep. 1945 ...	10- 4-0	10-0-0	16-12-0	11- 2- 0	0-14-6
Nov. 1946 (Base) Index Price	392	352	218	167	283
	10- 4-0	10-9-0	21- 6-6	13-13- 6	1- 3-10½
Sept. 1947	392	410	218	Not Available	
	10- 4-0	12-5-0	21- 6-6		

* Prices for the season 1947-48 not yet fixed.

TABLE No. 39

Statement showing Technical Efficiency of Factories in India as compared to other Countries

—	INDIA 1934	INDIA 1940-41	Natal 1941	Hawaii 1941	Queensland 1940	Java 1932	Cuba 1931	Formosa 1938	Mauritius 1941
Cane-sucrose per cent ...	11.21	12.18	14.00	11.05	16.04	13.22	13.865	13.09	13.30
Cane-fibre per cent ...	15.50	16.18	15.66	13.44	11.58	12.60	10.915	11.68	12.60
Mixed Juice purity ...	79.21	80.45	85.67	82.38	...	84.30	85.57	83.89	85.30
Extraction ...	90.65	91.22	92.37	96.32	95.46	94 60	94.62	97.62	95.20
Extraction reduced ...	92.72	93.43	94.13	96.61	95.05	94.66	93.73	97.43	95.10
Overall recovery ...	77.05	79.58	81.66	87.65	87.34	85.83	87.74	90.43	85.10
Overall recovery reduced: (Tech. Efficiency.) ...	83.35	85.04	82.61	89.44	...	86.36	86.62	90.83	84.02
Yield per cent as sugar ...	8.70	9.72	11.60	10.74	14.22	11.16	12.33	12.05	11.48
Yield per cent as sugar—96 Pol. ...	9.00	10.10	11.92	10.90	14.60	...	12.84	12.20	11.80

TABLE No. 40

Sugar Quota allotted for Export—1943-47

(Figures in Tons)

Name of the country	1943—44	1944—45	1945—46	1946—47
Bahrein	3,434	3,638	3,274	3,205
Trucial Coast	2,616	2,220	1,998	1,800
Kowait	2,340	2,340	2,106	1,917
Muscat	336	336	302·4	302·5
Gwadur	60	60	60	54
S.-E. Persia	2,400	2,400	...	...
Afghanistan	4,800	4,800	4,320	7,200
Nepal	877	1,561·5	1,405·3	1,405
Sikkim	320	256	230·4	230
Tibet	40	240	216	216
Bhutan	220	220	198	198
French Possessions in India ...	...	...	...	462
Total ...	17,443	18,072	14,110	16,990

TABLE No. 41

MINIMUM PRICES OF CANE SINCE 1943-44

Non-varying price for cane in U.P. and Bihar in 1943-44

Early in November 1943, the Government announced an increase in the minimum price of cane in U.P. and Bihar from As. 10 a maund which was the price in the 1942-43 season, to As. 12 a maund of cane. At the same time, the factories were directed not to pay the full price to the cane-grower all at once. One-sixth of the price, i.e. two annas a maund, was to be paid in Defence Savings Bonds or Certificates which were to be cashed one year after the war was over. The Government expected that on the basis of production of 9 lakhs tons of sugar in U.P. and Bihar, nearly Rs. 3 crores would thus be withheld from circulation and be of assistance in their anti-inflationary tendencies. The Punjab Government, finding that factories were unable to get cane at Re. 0-12-0, fixed Re. 0-14-6 per maund, and the Bengal Government fixed Re. 1 per maund.

Special Reduction in Cane Price towards the fag end of the Season, 1943-44

With effect from 15th May 1944, the U.P. Government announced a reduction of Re. 0-2-0 in the price of cane, i.e. to Re. 0-10-0 per maund, in order to induce factories to continue crushing and produce maximum quantities of sugar. The full amount was to be paid straight to cane-growers.

Discontinuance of Additional Special Cess of Re. 0-0-6 per maund of Cane in U.P. and Bihar in 1943-44

Additional Cess of Re. 0-0-6 per maund of cane imposed in 1940-41 to repay the deferred excise duty, for which an amount of Rs. 150 crores was borrowed from the Government of India, with a view to enable the Governments of U.P. and Bihar to give a temporary rebate of one rupee per maund of the excise duty, was discontinued from 1943-44 season, as the amount was fully collected and as the sum, along with the interest, was repaid to Government of India.

Raising of Ordinary Cess on Cane from Re. 0-0-3 to Re. 0-1-0 per maund in U.P. and Bihar in 1943-44

The rate of ordinary Provincial cess on cane which was Re. 0-0-3 per maund was, however, raised to Re. 0-1-0 per maund with effect from 1943-44, in U.P. and Bihar, in spite of the protests of the industry. The proceeds of this cess will be credited to Provincial Revenues as usual. No portion of this cess is earmarked for any specific purposes.

Cane Prices and Cane-Cess During 1944-45 and 1945-46 Seasons in U.P. and Bihar

In October 1944, the Sugar Controller for India, after consulting his Advisory Committee, announced an increase of Rs. 1-7-0 in the Sugar price, thereby fixing the price of sugar of the standard quality (D.24) at Rs. 16-4-0 per maund. The Governments of U.P. and Bihar on the basis of this increase fixed a cane price of As. 14. Thus the minimum price of cane for the season 1944-45 was fixed at annas 14 per maund of cane exclusive of cess to be paid by all factories.

In September 1945, the Governments of U.P. and Bihar announced the minimum prices for sugarcane in the 1945-46 season as follows:—

For U.P. Re. 0-14-6 per maund for cane delivered at the factory gate, and

Re. 0-14-0 per maund for cane purchased at outstations.

For Bihar Re. 0-15-0 per maund.

Cane Prices in the Punjab and Bengal (1945-46)

To enable factories in the Punjab and Bengal to get cane without any difficulty, the cane prices were fixed higher than in the U.P. and Bihar. The price fixed in the Punjab was Re. 1 per maund, while in Bengal it was as high as Re. 1-2-0 per maund.

Cane Cess in Bihar and U.P. (1944-45 and 1945-46)

A cess of Re. 0-1-0 per maund was levied on all sugarcane utilised in factories in Bihar. The sugar factories at Maharajganj, Baksar and the Gangadeshi Sugar Factory were exempted from payment of this cess in 1945-46.

In U.P. also, a cess at the rate of Re. 0-1-0 per maund was levied in 1946-47 as in 1944-45.

No compulsory deductions from cane prices for Defence Savings Certificates were made in the U.P. and Bihar during this season, the same having been abolished late in the 1944-45 season, i.e. in January 1945.

Cane Prices in other Areas in 1944-45 and 1945-46

Madras

In order to ensure adequate supplies of sugarcane to the sugar factories in the Province, the Madras Government prohibited crushing of sugarcane for the manufacture of jaggery except under permits in most of the factory areas and directed the cane-growers in specified villages in these areas to supply cane to the factories concerned. Basic minimum prices of sugarcane for delivery at the factory were fixed for all the factory areas in the Province taking into consideration the price of sugar, the percentage of recovery of sugar, the cost of cultivation and profits on alternative crops. The prices were fixed in such a way as to ensure that full benefit of the increase in sugar price since 1944 was passed on to the cane-growers by way of enhanced prices for cane. The prices so fixed ranged from Rs. 20-8 to Rs. 24 per ton in 1944-45 and from Rs. 21 to Rs. 26 per ton in 1945-46.

Mysore

The price fixed for sugarcane to be purchased from the ryots was Rs. 21 per ton in 1944-45 as against Rs. 18 in 1943-44.

Income from Cane Cess in 1945-46 and 1946-47

Usually the incomes accruing to the Provincial Governments of U.P. and Bihar from cane cess are merged in Provincial revenues and no portion thereof is earmarked for any specific purpose. The income from the cess during 1946-47 is estimated at Rs. 90 lakhs in U.P. and Rs. 25 lakhs in Bihar. In 1945-46 the income was almost the same. The U.P. Government have spent a substantial amount from general revenues during the previous financial years on (1) Cane Development Department, (2) Staff for the reservation and bond-

ing of sugarcane, (3) Staff maintained for the administration of the U. P. Sugar Factories Control Act, 1938, and the rules made thereunder, (4) Staff maintained for the administration of the Sugar and Sugar Products Control Order promulgated by the Government of India, for the Sugar Commission, (5) Special Staff maintained at the Imperial Institute of Sugar Technology in connection with the technical and statistical work entailed by the Sugar Factories Control Act, and (6) Improvement of road communications in areas which are the normal sources of cane supplies to sugar factories.

Cane Cess in U.P. and Bihar in 1946-47

The Governments of Bihar and U.P. continued to levy a cess at the rate of one anna per maund of sugarcane which enter the areas comprised in the sugar factories in both the provinces.

On the 8th January 1947, the Government of Bihar, by an amendment of the Bihar Sugar Factories Control Act, 1937 (Bihar Act VII of 1937), imposed an additional cess of half anna per maund of sugarcane for the 1946-47 season. By a notification issued on the 3rd September 1947, the Government of Bihar remitted the cess at the rate of Re. 0-0-6 per maund, out of the total cess of Re. 0-1-6 per maund imposed under notification No. 58-D, dated the 8th January 1947, on all cane crushed during the crushing season 1946-47 in the Bihar factories. Thus, the net cess levied on factories in Bihar was one anna per maund, as in the U.P., for the 1946-47 season.

The Government of Bihar explained in a Press Note at the commencement of the crushing season 1946-47, that the price of sugar had been fixed by the Government of India at Rs. 20-14-0 per maund on the basis of a season of 90 days and sugar recovery of 10.5 per cent for Bihar, and 100 days and 10 per cent respectively for U.P. The price of sugar thus fixed was favourable to the Bihar factories, as the cost worked out at Re. 0-5-9 per maund more in the case of U.P. factories as compared with the Bihar factories. It was accordingly decided to tap this uncovered income and an additional cess of half anna per maund of sugarcane was imposed. Due to various reasons, the 1946-47 cane-crushing season lasted for a much shorter period than what was estimated and the sugar recovery was also much less, with the result that factories had to suffer loss instead of making profit. The Government of Bihar, therefore, decided in September 1947 to remit this additional cess of half anna per maund of sugarcane levied during the 1946-47 season. The amount will thus be refunded to the factories in Bihar.

Cane Prices in Mysore, Madras and Bengal in 1946-47

Consequent on the increase in the sugar prices with effect from the 23rd October 1946, the Government of Mysore raised the price of sugarcane from Rs. 24 per ton to Rs. 32 per ton, for the season 1946-47. In Madras the minimum price for sugarcane varied from Rs. 29 per ton to Rs. 34 per ton at the various factories in 1946-47.

In Bengal the price of cane was fixed at Re. 1-6-0 per maund.

Cane Prices in U.P. and Bihar in 1946-47

The Government of India increased the prices of all grades of sugar by Rs. 4-4-0 per maund with effect from the 23rd October 1946,

raising the price of D-24 sugar to Rs. 20-14-0 per maund. For the Punjab and N.-W.F. Province the price was fixed higher by about Rs. 3-2-0 per maund, i.e. at Rs. 24 per maund. The minimum price of cane fixed by the Provincial Governments of U.P. and Bihar for their provinces for the 1946-47 season was Re. 1-4-0 per standard maund of 82 2|7 lbs. avoirdupois exclusive of cess at the rate of one anna per maund.

For purposes of comparison, we give below the price of sugar and sugarcane in 1942-43 and 1946-47 :—

	Controlled price of sugar (D-24 quality) per maund	Minimum price of cane in U.P. and Bihar per maund
1942–43	Rs. 14– 0– 0	0–10–0 + 0–1–0 cess
1946–47	Rs. 20–14– 0	1– 4–0 + 0–1–0 cess

It will be of interest to note that at present (1947) the cane price constitutes 70 per cent of the price of sugar, less the amount of excise duty of Rs. 2-3-3 per maund. In 1943, the cane price constituted 57 per cent of the price of sugar. The cane price has been doubled in 4 years.

Expected Minimum Cane Price in U.P. and Bihar and Sugar Price in 1947-48 under the Control Order, 1947

Although cane cultivators and the industry both urged fixation of higher price of cane in the interest of higher production of sugar, we feel that the Government of India would be chary of increasing the price of sugarcane as it would upset the present levels of food-grain prices, particularly in the U.P. and Bihar. We believe, however, that the Government of India will have to allow a small increase in the sugar price for 1947-48 in order to enable the factories to pay increased wages as decided by the Governments of U.P. and Bihar in 1946-47 (and for which the Government of India granted a subsidy of 9 annas per maund to the sugar factories of U.P. and Bihar during 1946-47), and to enable the industry to derive a fair profit which was not realised during 1946-47 by a large number of factories. This increase will be of about Re. 1 per maund. In view of this, the sugar price for 1947-48 may be fixed at Rs. 21-14-0 per maund instead of Rs. 20-14-0 per maund in 1946-47.

Sugar (Temporary Excise Duty) Ordinance, 1946, and Sugar (Temporary Excise Duty) Act, 1947

The Government of India increased the price of sugar by Rs. 4-4-0 per maund with effect from the 23rd October 1946. With effect from the same date, they imposed a temporary excise duty of Rs. 4-4-0 per maund on stocks of sugar held by the factories, wholesalers, etc. This was done with a view to prevent factories and dealers from making any extra gains for sugar in stock with them.

Ordinance XXV of 1946 imposing a temporary excise duty on all sugar produced in any factory in British India from the commencement of this ordinance, and owned or possessed at the commencement of this ordinance by any owner of a factory or by a wholesale dealer, at the rate of Rs. 4-4-0 per standard maund, was issued on 23-10-1946.

On the 11th March 1947, an Act was passed (Act No. IX of 1947) to provide for the completion of the recovery of the said temporary excise duty on sugar.

"THE SUGAR INDUSTRY AT A GLANCE" (1946-47)

SUGAR INDUSTRY (PROTECTION) ACT, 1939*

(Present Duties to continue till 31st March 1948)

ACT NO. XX of 1939

An Act to provide for the continuance for a further period of the protection conferred on the sugar industry in British India.

Whereas it is expedient to provide for the continuance for a further period of the protection conferred on the Sugar Industry in British India, and to extend the date before which the Central Government is required under Section 3 of the Sugar Industry (Protection) Act, 1932, to lay before the Indian Legislature the proposals referred to in the said Section;

XIII of 1932.

It is hereby enacted as follows:—

Short Title.

1. This Act may be called the Sugar Industry (Protection) Act, 1939.

Amendment of Sec. 3 of Act XIII of 1932 †.

2. In Section 3 of the Sugar Industry (Protection) Act, 1932, for the figure "1939" the figure "1941" shall be substituted.

Amendment of First Schedule to Act XXXII of 1934 ‡.

3. In Item No. 17 of the First Schedule to the Indian Tariff Act, 1934:—

---

* Received the assent of the Governor-General on March 31, 1941. For the Sugar Industry (Protection) Act, 1932, and the Sugar Industry (Temporary Extension) Act, 1938, *see* 1939 Sugar Industry Annual, pages 1 to 4.

† As amended, Section 3 of Act XIII, 1932, viz.: the Sugar Industry (Protection) Act, 1932, will read as under:—

3 The Governor-General-in-Council shall cause to be made by such persons as he may appoint in this behalf, an inquiry to ascertain if the protection of the Sugar Industry during the period from the 31st day of March 1941 to the 31st day of March 1946, should be continued to the extent conferred by this Act, or to a greater or lesser extent, and shall, not later than 31st day of March 1941 lay his proposals in this behalf before the Indian Legislature.

‡ As amended, Item No 17 of the First Schedule to the Indian Tariff Act, 1934, will read as follows:—

17. Sugar, excluding confectionery	Protective	The rate at which excise duty is for the time being leviable on sugar, other than *khandsari* or *palmyra* sugar, produced in British India plus Rs. 6-12-0 per cwt.	Upto 31st March 1946

(*a*) In the fourth column, for the words and figures " plus Rs. 7-4-0 per cwt." the words and figures "plus Rs. 6-12-0 per cwt." shall be substituted ;

(*b*) In the last column, for the figures " 1939 " the figure " 1944 " shall be substituted.

By the Protective Duties Continuation Act, 1944, the existing protective duties on sugar [as also wood pulp, paper, silk manufactures, gold and silver thread and wire] *were continued for a further period of two years, that is, upto 31st March 1946.*

Under Act 7 of 1946, it was provided that the life of the Indian Tariff Act, 1934 (XXXII of 1934), be continued for a further period of one year upto the 31st day of March 1947. The relevant portion in connection with the same as embodied in the Finance Act, 1946, is given below :—

" The additional duties of customs on certain goods chargeable with the duty of customs under the First Schedule of the Indian Tariff Act, 1934, or under the same Schedule read with any notification of the Central Government for the time being in force, imposed upto 31st day of March 1943 by section 6 of the Indian Finance Act, 1942, and continued, subject to certain modifications, upto 31st day of March 1946, by section 4 of the Indian Finance Act, 1945, as amended by section 4 of this Act shall continue to be levied and collected as provided under the said section 6 upto the 31st day of March 1947."

Note.—The total import duty on sugar (including the equivalent excise duty of Rs. 3 per cwt. and the surcharge of 20 per cent on both imposed with effect from the 1st April 1942) amounts to Rs. 11-11-2 per cwt. with effect from 1st April 1942.

A Tariff Board enquiry was undertaken in January 1947 and on its recommendations, protection has been continued till 31st March 1948.

SUGAR EXCISE DUTY ACT, 1934

(For Text of the Act, refer to earlier issues of the Annual.)

INTERNATIONAL SUGAR AGREEMENT

India does not join after September 1942

India was a party to the International Sugar Agreement which was concluded in 1937 with a view to establishing and maintaining an orderly relationship between supply and demand of sugar and to regulate the world prices of sugar. Under this agreement India undertook to prohibit exports of Indian sugar by sea elsewhere than to Burma.

India was released from this obligation not to export sugar by sea, with effect from 1st September 1942, the Government of India having decided not to join in the proposed extension of the International Sugar Agreement.

India is now free to export sugar by sea (1947)

Grant of Protection to the Sugar Industry: Tariff Board's Recommendations and Government of India's Decisions thereon

The following is a Resolution [No. 218-T(25)/47, dated the 29th March 1947] of the Government of India in the Department of Commerce :—

In their Resolution No. 28-T(6)/46, dated the 20th January 1947, in the Department of Commerce, the Government of India requested the Tariff Board to hold a summary enquiry and advise Government whether, in the present circumstances, protection at the existing or at a different scale should be granted for a further year after the 31st March 1947, to the sugar industry.

The Board, having conducted an enquiry, has submitted its report. Its main recommendations are as follows:—

(1) The present Central Government grant to the Indian Central Sugarcane Committee of 1 anna per cwt. of sugar from the Excise Duty should be increased to 4 annas per cwt.

(2) All facilities should be given to the sugar factories to establish subsidiary industries.

(3) The present protective duties should be continued for a further period of one year.

The Government of India accept the recommendation that the existing protective duties should be continued for a further period of one year ending the *31st March 1948*. The necessary legislation to give effect to this decision will be undertaken as soon as possible.

The Government of India also accept recommendations (1) and (2) of the Board.

U.P. AND BIHAR GOVERNMENTS' ACTS

U.P. AND BIHAR SUGAR CONTROL BOARD (1946-48)

The following persons have been nominated as Members of the reconstituted Joint Sugar Control Board of U.P. and Bihar, by notification dated 25th July 1946 for a period of 2 years from 1st July 1946 :—

(1) The Hon'ble Minister for the time being of the United Provinces Government in charge of Development.

(2) The Hon'ble Minister for the time being of the Bihar Government in charge of Development.

(3) Mr. D. R. Narang, M.B.E., M.L.C., Basti Sugar Mills Company, Limited, Basti.

(4) Mr. C. O'Malley, Begg, Sutherland and Company Limited, Cawnpore.

(5) Mr. K. K. Birla, 8, Royal Exchange Place, Calcutta.

(6) Mr. R. L. Nopany, 178, Harrison Road, Calcutta.

(7) Mr. D. D. Puri, Neoli Sugar Factory, Manpur-Nagaria (Etah).

(8) Lala Har Sahai Gupta, M.L.C., Shankar Agricultural Farm, Bilari (Moradabad).

(9) Thakur Phool Singh, M.L.A., Saharanpur.

(10) Mr. Shibban Lal Saksena, M.L.A.

(11) Mr. Jamuna Prasad Singh, M.L.A., Bihar, village Recla, post office Sheotar, Gaya District.

(12) Khan Bahadur Saghirul Haque, Sivan, Saran District, Bihar.

(13) Mr. Satyapal Varma, Cawnpore Sugar Merchants' Association, Cawnpore.

(14) The Secretary to the Government of Bihar, Development and Employment Department.

(15) The Secretary to the Government of the United Provinces in the Agriculture Department.

U.P. AND BIHAR SUGAR COMMISSION

In August 1940, the U.P. and Bihar Governments set up a joint "Sugar Commission, which would be the final authority, subject to Government control, on all matters connected with the production and sale of sugar, as well as other matters regarding cane prices, etc." It may be observed that since the institution of Central Control over the industry, the Sugar Controller for India exercises some of the powers relating to sale, cane price fixation, etc. in the interests of an all-India policy and to that extent directs the Sugar Commission and its Chairman in the discharge of their duties.

The Chairman of the Commission till the middle of 1947, was Mr. B. B. Singh, I.C.S. (who succeeded Mr. Malcolm in 1946). The Cane Commissioners of U.P. and Bihar are *ex-officio* members of the Commission. They are also *ex-officio* members of the Board of Directors of the Indian Sugar Syndicate Ltd. The office of the Sugar Commission is located at Cawnpore.

The Chairman of the Commission also acts as Provincial Sugar Controller for U.P.

U.P. AND BIHAR SUGAR FACTORIES CONTROL ACT

(Life Extended till 30th June 1950)

During 1942, the Bihar and U.P. Governments proposed an amendment to the Control Acts with a view to maintain the continuity of work and to continue the operation of the Acts till the end of the crushing season 1946-47. During 1946, the life of these Acts was extended till June 1950.

In November 1944, the United Provinces Government made certain amendments to the U.P. Sugar Factories Control Rules, 1938. Under the new amendment, a Technical Committee consisting of six members has been set up to plan and organise and direct the technical problems concerning the sugar industry in U.P. The Director of Imperial Institute of Sugar Technology and the Cane Commissioner of U.P. have been appointed as *ex-officio* members of the Committee and the remaining four have been nominated by the Government after consulting the Indian Sugar Syndicate Ltd.

The functions of the Technical Committee shall be to advise the Provincial Government with regard to (*a*) the establishment of new sugar factories in the Province or additions or alterations in the existing plants of the sugar mills and (*b*) to advise on any other technical and incidental matters connected with the sugar mills referred to it from time to time by the Sugar Commissioner or the Provincial Government. The office of the Technical Committee is to be located at Cawnpore.

GOVERNMENT OF INDIA: DEPARTMENT OF FOOD SUGAR & SUGAR PRODUCTS CONTROL ORDER, 1947

New Delhi, the 4th August 1947.

No. SS-501 (28)|47.—In exercise of the powers conferred by sections 3 and 4 of the Essential Supplies (Temporary Powers) Act, 1946 (XXIV of 1946), and in supersession of the Sugar and Sugar Products Control Order, 1946, published with the notification of the Government of India in the Department of Food No. 1-SC (1)|46, dated the 18th February 1946, the Central Government is pleased to make the following Order :—

1. (1) This Order may be called the Sugar and Sugar Products Control Order, 1947.

(2) It extends to the whole of British India.

(3) It shall come into force at once.

2. In this Order unless there is anything repugnant in the subject or context—

(*a*) "Controller" means the person appointed as the Sugar Controller for India by the Central Government, and includes any person authorised by the Controller to exercise all or any of the powers of the Controller under this Order except those under clause 6 hereunder :

(*b*) "Dealer" means a person carrying on business in the purchase, sale or distribution of sugar or sugar products ;

(*c*) "Ex-factory price" means the price of sugar inclusive of excise duty, packed in accordance with the usual market practice, and loaded at the buyer's option, on buyer's carts, lorries or other means of transport, or into railway wagons at the railway station or siding generally used by the producer, and all incidental charges including those for loading and forwarding, being on account of the ex-factory seller ;

(*d*) "Producer" means a person carrying on the business of manufacturing sugar or sugar products or both with the aid of electrical energy or any other form of energy which is mechanically transmitted and is not generated by human or animal agency ;

(*e*) "Recognised Dealer" means a dealer who has been recognised as such by the Controller for the purposes of this Order ;

(*f*) "Sugar" means (i) any form of sugar containing more than 90 per cent of sucrose ; (ii) any sugar of crystalline structure ;

(*g*) "Sugar Product" means any article manufactured from, and containing sugar not less than 25 per cent of its weight.

3. No producer shall dispose of, or agree to dispose of or make delivery of, any sugar, except :—

(i) to or through a recognised dealer, or

(ii) to a person specially authorised in this behalf by the Controller to acquire sugar on behalf of the Central Government or of a Provincial Government or of an Indian State.

4. (1) If the Controller has reason to believe that the production of special types of sugar or sugar products is likely to affect adversely in the production of adequate quantities of ordinary sugar, he may, by general or special order, prohibit or limit to such quantities as may be specified in the order, the manufacture by any producer or by producers generally of such types or grades of sugar or sugar products as the order may specify, and no producer to whom such order applies shall manufacture any sugar or sugar products in contravention thereof.

(2) For the purposes of sub-clause (1), "producer" includes a person carrying on the business of manufacturing any form of sugar containing more than 90 per cent sucrose including Khandsari Sugar, Desi Sugar and Bura.

5. Every producer and dealer shall comply with such directions regarding the production, sales, stocks or distribution of sugar or sugar products as may from time to time be given to him by the Controller.

6. (1) The Controller may, from time to time, fix with the prior approval of the Central Government by notification in the Official *Gazette* the price or maximum price at which any sugar or sugar product may be sold or delivered, and different prices may be so fixed by him for different areas or different types or grades of sugar or sugar products.

(2) Where the price or the maximum price has been so fixed :—

(*a*) the price at which such sugar or sugar product may be sold for delivery otherwise than ex-factory shall not exceed the price or maximum price as the case may be fixed under sub-clause (1) for sale ex-factory plus such charges in respect of transport to or in specified areas and other incidental charges as are approved by the Controller;

(*b*) no person shall sell or purchase or agree to sell or purchase such sugar or sugar product at a price higher than that fixed under the provisions of sub-clause (1).

7. (1) The Controller may, from time to time, with the prior approval of the Central Government—

(i) allot quotas of sugar or sugar products or of both for the requirements of any specified province, or area, or market;

(ii) issue directions to any producer or dealer to supply sugar or sugar products to such provinces, areas or markets or such persons or organisations, in such quantities, of such types of grades, at such times, at such prices and in such manner as may be specified by the Controller.

Provided that where price or maximum price of any sugar or sugar product has been fixed in accordance with sub-clause (1) of clause 6

the Controller shall in respect of such sugar or sugar product specify the price or maximum price under para (ii) of this sub-clause accordingly.

(2) The Controller may also, from time to time

require any producer or dealer to keep in reserve stocks of sugar or sugar products in such quantities and of such types and grades as he may direct from time to time ;

(3) Every producer, shall, notwithstanding any existing agreement with any other person, give priority to, and comply with any directions issued to him under sub-clause (1).

8. (1) No sugar shall be transported, or offered or accepted for transport, whether by rail, road or water, and whether by a railway servant, common carrier or other persons except under and in accordance with the terms of :—

(*a*) general or special permit issued by the Controller in this behalf ; or

(*b*) a Military Credit Note.

Provided that nothing in this sub-clause shall apply to the transport of sugar not exceeding 5 seers as part of the personal luggage of a *bona fide* traveller.

(2) A permit issued in pursuance of sub-clause (1) shall be returned by the consignor to the Controller on completion of despatch, or on expiry of the period of its validity, whichever is earlier, with the particulars of actual despatches in the prescribed form.

(3) For the purposes of this clause "sugar" means sugar manufactured by any process, including sugar made in vacuum pan factories from cane or gur or palmyrah jaggery, as well as Kandsari Sugar, Sugar Candy (Misri) and Bura.

9. The Controller may, by notification in the Official *Gazette*, make rules for carrying into effect the purposes and object of this Order.

10. Notwithstanding the supersession of the Sugar and Sugar Products Control Order, 1946, all notifications, rules, orders, authorisations, quotas, requirements and directions issued or deemed to have been made thereunder shall, so far as they are not inconsistent with this Order, be deemed to have been made hereunder, and they shall continue in force until rescinded or modified hereunder.

11. If any person contravenes the provisions of this Order, then without prejudice to any other punishment to which he may be liable, any court trying the offence may order that any stocks of sugar or sugar products, together with the packages and coverings thereof, in respect of which the court is satisfied that the offence has been committed, shall be forfeited to His Majesty.

GOVERNMENT OF INDIA: DEPARTMENT OF FOOD
GUR CONTROL ORDER, 1947

New Delhi, the 4th August 1947.

No. SS-530 (11) |47.—In exercise of the powers conferred by Sections 3 and 4 of the Essential Supplies (Temporary Powers) Act, 1946 (XXIV of 1946), and in supersession of the Gur Control Order, 1946 published with the notification of the Government of India in the Department of Food No. 1-G (1) |46, dated the 18th February 1946, the Central Government is pleased to make the following Order :—

1. (1) This Order may be called the Gur Control Order, 1947.
   (2) It extends to the whole of British India.
   (3) It shall come into force at once.

2. In this order, unless there is anything repugnant in the subject or context,

(*a*) "Controller" means the person appointed as Gur Controller for India by the Central Government, and includes any person authorised by the said Controller to exercise all or any of the powers of the Controller under this Order except those under Section 3 hereunder ;

(*b*) "dealer" means a person carrying on business in the purchase, sale or distribution of Gur ;

(*c*) "producer" means a person carrying on the business of producing Gur ;

(*d*) "Gur" means articles commonly known as Gur, Gul, Jaggery, palmyra jaggery, shakkar and rab, and includes raw sugar as also uncrystallised sugar in any other form comprising of original and convertible molasses and other impurities, inherent or foreign, prepared by boiling cane or palmyra juice ;

(*e*) "Sugar" means any form of sugar containing more than 90 per cent of Sucrose.

3. The Controller may, from time to time, fix with the prior concurrence of the Central Government by notification in the Official *Gazette* for any specified area the maximum prices at which Gur may be sold or delivered, and different rates of prices may be fixed by him for different areas or different types or grades of Gur.

4. Every producer and dealer shall comply with such directions regarding the production, sales, delivery, stocks, distribution or prices of Gur may from time to time be given by the Controller.

5. If in the opinion of the Controller the unregulated production of Gur in any area is likely to affect adversely the production of sugar in quantity which in his opinion is required for the needs for the community, he may, with the prior concurrence of the Central Government by order published in the Official *Gazette*, provide for all or any of the following matters :—

(*a*) prohibit or restrict the export of sugarcane to any place outside that area ;

(b) direct that cane-growers in that area shall deliver sugarcane to a specified sugar factory or factories in accordance with such conditions in regard to quantity, price, and time of delivery as may be specified by the Controller;

(c) prohibit, or restrict to such quantities or qualities or both as may be specified by the Order, the manufacture of Gur by all or any class of producers in the said area.

6. (1) The Controller may from time to time with the prior approval of the Central Government—

allot quotas of Gur for the requirements of any specified province or area, or of any specified market, and

(2) The Controller may also, from time to time—

issue directions to any producer or dealer to supply Gur to such areas or markets or such persons or organisations, in such quantities of such types, or grades, at such times, at such prices and in such manner as may be specified by the Controller.

(3) Every producer or dealer shall, notwithstanding any existing agreement with any other person, give priority to, and comply with any directions issued to him under sub-clause (1).

7. No gur shall be transported or offered or accepted for transport whether by rail, road or water and whether by a railway servant, common carrier or other person except under a permit issued by the Controller in such form and subject to such conditions and in respect of such areas as he may from time to time prescribe:

Provided that this clause shall not apply to the transport by railway or in any manner whatsoever by land or water of Gur

(*a*) by a *bona fide* traveller as part of his personal luggage; or

(b) under and in accordance with Military Credit Notes.

EXPLANATION.—For the purposes of this clause Gur not intended for the personal use of the traveller and members of his family shall not be deemed to be his personal luggage.

8. The Controller may, by notification in the Official *Gazette*, make regulations for carrying into effect the purposes of this Order.

9. If any person contravenes the provisions of this Order, then without prejudice to any punishment to which he may be liable, any court trying the offence may order that any stocks of gur, together with the packages and coverings thereof, in respect of which the court is satisfied that the offence has been committed shall be forfeited to His Majesty.

10. Notwithstanding the supersession of the Gur Control Order, 1946, all notifications, rules, orders, authorisations, quotas, requirements and directions issued thereunder shall, so far as they are not inconsistent with this Order, be deemed to have been made hereunder, and they shall continue in force until rescinded or modified hereunder.

INDIAN CENTRAL SUGARCANE COMMITTEE FORMED IN 1944

The Government of India announced their decision to set up a Central Sugarcane Committee by a resolution No. F41-24|43A, dated 6th June 1944, of the Education, Health and Lands Department.*

FORMATION OF THE INDIAN CENTRAL SUGARCANE COMMITTEE IN 1944

This Committee was inaugurated on the 29th November 1944, by the late Sir Jogendra Singh, the then Hon'ble Member-in-Charge of the Department of Education, Health and Lands, Government of India. The Committee was fully represented by various interests, viz.: the growers, the manufacturers, the traders and the consumers, so that the industry in all its important branches was fully represented in the Indian Central Sugarcane Committee. It is well recognised that representation of all interests is essential for the achievement of a co-ordinated policy. Originally the Committee had 45 members in all on its rolls, of whom sixteen were *ex-Officio* members, including the *ex-Officio* President, nine representatives were nominated by the Indian Sugar Mills Association, there were three nominees of the Sugar Trade, one of the Sugar Factory-owners, four representatives of the *Gur and Khandsari*, three of the consumers, one nominee of the Sugar Technologists' Association. There were eight non-officials, representing agricultural interests, nominated respectively by the Governor-General-in-Council and the Governments of Madras, Bengal, Bihar, United Provinces and the Punjab. To this number of members the Sugar Controller for India and one representative of the Industries and Civil Supplies Department of the Government of India were subsequently nominated by the Governor-General-in-Council.

Prior to the formation of the Indian Central Sugarcane Committee, the responsibility for guiding sugarcane research in India and of advising the Central and Provincial Governments on matters relating to improvement and development of the industry, connected with sugarcane and its products, rested mainly with the Sugar Committee, appointed by the Imperial Council of Agricultural Research; and partly with the Imperial Institute of Sugar Technology, Cawnpore, which was under the direct control of the Government of India.

Funds of the Committee†

The proceeds of the Sugar Excise Fund, to which funds are credited at the rate of one anna per cwt. of white sugar produced in British India, out of the Excise Duty levied thereon, were utilised for the maintenance of the Imperial Institute of Sugar Technology and for sanctioning grants to the Provincial Governments for expenditure in connection with schemes of sugarcane research and development.

On the formation of the Indian Central Sugarcane Committee in November 1944, the responsibility for undertaking the improvement and development, marketing and manufacture of sugarcane and its various products in India, and of all matters incidental thereto, were vested in

* The text is reproduced in 1945-46 *Annual*, pp. xxvii to xxix.

† From 1947-48, the grant is increased at the rate of Re. 0-4-0 per cwt.

the Committee. The main lines of work undertaken by the Indian Central Sugarcane Committee, either under its direct control or through schemes subsidised by it included :—

(i) the production, distribution and testing of improved varieties of sugarcane under different sets of soil and climatic conditions ;

(ii) the testing of improved cultural, manurial and irrigation practices ;

(iii) the study of sugarcane diseases and pests, including the biological control of borers, etc.;

(iv) the technological and economic research on sugar and its by-products ;

(v) the manufacture of *Khandsari* sugar and *gur*, by improved methods ;

(vi) the grading and storage of white sugar, *Khandsari* sugar and *gur* ; and

(vii) the improvement of crop forecasting and sugar statistics.

During the year 1945-46 the Committee continued to maintain the Imperial Institute of Sugar Technology which serves as a teaching, as well as, a research institution and which is also responsible for the maintenance of Sugar Standards, preparation of the returns under the Sugar Production Rules, Sugar Trade Information Service and for taking up any other special work connected with sugar as and when required by Central or Provincial Governments.

COMPOSITION OF THE INDIAN CENTRAL SUGARCANE COMMITTEE (1946-47)

List of the Members of the Indian Central Sugarcane Committee

Vice-Chairman, Imperial Council of Agricultural Research : Sardar Bahadur Sir Datar Singh ; Agricultural Commissioner with the Government of India : Vacant ; Director, Imperial Agricultural Research Institute : Dr. H. S. Pruthi and Dr. J. N. Mukherjee ; Director, Imperial Institute of Sugar Technology : Mr. S. C. Roy, M.B.E.; Agricultural Marketing Adviser to the Government of India : Khan Bahadur A. R. Malik ; Imperial Sugarcane Expert : N. L. Dutt, Esq.; Director of Agriculture, Madras : Rao Bahadur Dr. B. Viswanath, C.I.E.; Director of Agriculture, Bombay : Sir William Jenkins ; Director of Agriculture, Bengal : N. M. Khan, Esq., I.C.S.; Director of Agriculture, United Provinces : Rai Bahadur Dr. S. B. Singh, Director, Central Sugarcane Research Station, Shahjahanpur (nominated by the Director of Agriculture, United Provinces) ; Director of Agriculture, Punjab : Malik Sultan Ali Noon ; Director of Agriculture, Bihar : C. A. MacLean, Esq., and B. N. Sarkar, Esq.; Director of Agriculture, Mysore : M. J. Narasimhan, Esq. (Mr. K. H. Srinivasan) ; Director of Agriculture, Hyderabad : Rai Bahadur K. D. Sawhney ; Cane Commissioner, United Provinces : A. D. Pant, Esq.; Cane Commissioner, Bihar : L. P. Singh, Esq., I.C.S.; Representatives of Indian Sugar Mills Association : Sir Shanker Lall (*Vice-President*), Lala Gurusharan Lall, R. L. Nopany, Esq., K. K. Birla, Esq., D. R. Narang, Esq., C. W. Tosh, Esq. (Mr. H. Crighton), Lalchand Hirachand, Esq., A. A. Khan, Esq. (Mr. B. T. Kempanna), B. P. Dalmia,

Esq.; Representative of Sugar Factory-owners: Dr. Chr. H. Nielsen; Representatives of the *Gur* and *Khandsari* Industry: Nasirur Rahman Kidwai, Esq., Banchhanidhi Kar, Esq., Sardar Iqbal Singh, Jagdish Saran Agrawal, Esq.; Representatives of Agricultural Interest: V. T. Ramaswami Iyer, Esq., Hamidul Huq Chowdhury, Esq., Raja Raghavendra Pratap Singh, Lala Har Sahai Gupta, Sardar Santokh Singh, S. Basu, Esq., Rao Bahadur G. G. Shambedkar, Mian Abidul Huq; Representatives of Sugar Trade: Seth Maneklal Ujamshi, Lala Daya Ram, Karamchand Thapar, Esq.; Consumers' Representatives: G. V. Deshmukh, Esq., Sir Mohammed Yamin Khan, The Hon'ble Mr. Hossain Imam; Representative of Sugar Technologists: Sir T. S. Venkatraman, KT., C.I.E.; Sugar Controller for India: N. T. Mone, Esq., I.C.S.; Representative of the Government of India, Industries and Supplies Department: A. A. Said, Esq.; Representative of Sugarcane growers, Hospet: Dr. R. Nagan Gowda, PH.D.

RESOLUTIONS OF INDIAN SUGAR MILLS ASSOCIATION, 1946

Resolutions of the 14th Annual General Meeting of the Indian Sugar Mills Association, held on 16th November 1946, at Lucknow

(The proceedings were inaugurated by the Hon'ble Pandit Govind Vallabh Pant, Premier of the U.P.)

"That this Association welcomes the establishment of the New Interim Government at the Centre and the return of the popular Ministries in the provinces which, it hopes, would result in an early realisation of the country's social and economic ideals as also its rapid industrialisation leading to a better standard of living for the Indian people and further hopes that they will take adequate steps for the development of the sugar industry."

Shrinkage of Cane Area

"This Association views with concern the shrinkage in production of sugar during the last two seasons and urges upon the Government of India and the Provincial and State Governments concerned to take adequate steps to enable the factories to maximise their output during the ensuing season. In order to maximise production during the ensuing season, the Association considers it to be essential that:

(*a*) adequate facilities for transport of cane by rail and road should be provided;

(*b*) all the purchasing centres in the U.P. and Bihar, which had to be closed as a result of the restrictions imposed by the U.P Transport Board during the war years, should be reopened;

(*c*) effective steps should be taken to prevent diversion of cane to *Khandsari* and *Gur* manufacture.

Revision of Basis of Price-Fixation of Sugar

"This Association considers the existing basis of price fixation to be unsatisfactory, and, therefore, urges upon the Government of India to revise the same.

In this connection, the Association desires to emphasise the following points :—

(1) Mr. R. C. Srivastava's scale for manufacturing expenses needs to be revised.

(2) The profit margin allowed in the controlled rates has been maintained at a pre-war level, that is, ten per cent on the block. But consequent on the increase in tax rates, a considerable part of the profits is absorbed by taxation, leaving a very narrow margin to the factories. The profit margin should, therefore, be increased adequately.

(3) Adequate care should be taken in estimating the duration and recovery per cent of sugar while calculating the prices so as to guard against any wide diversity between the estimates and the actuals thereof which renders the price inappropriate involving the factories in losses, as has been the case during the last two seasons during which the factories sustained serious losses through the estimates of the Control Board not being reached."

Central Power Alcohol Committee

"This Association notes the progress made towards the establishment of the Power Alcohol and Distillation Industry during recent years and urges that a Central Power Alcohol Advisory Committee should be immediately formed with proper representation of Sugar and Power Alcohol manufacturers to ensure the fullest development of the industry on a sound and secure basis."

Labour Unrest in Industry

"This Association views with concern the prevailing labour unrest in the country and apprehends that unless suitable steps are taken to ensure industrial peace during the ensuing season, production of sugar might suffer owing to labour disputes. The Sugar Industry, being a completely controlled industry, is left with no initiative in the matter and it is for the Government of India and the Provincial Governments to decide what amenities should be provided to the labour employed in the sugar factories and adequate allowance should be made therefor in the controlled rates of sugar."

"In this connection, the Association views with satisfaction the appointment of Labour Enquiry Committee by the U.P. and Bihar Governments to investigate the existing labour conditions and recommend steps to be taken for achieving industrial harmony in the future. This Association hopes that other Provincial Governments would also take timely steps for ensuring industrial peace during the ensuing cane-crushing season."

Subsidiary Industries

"This Association notes with satisfaction establishment of industries subsidiary to the sugar industry, especially the Confectionery and Fruit Preservation Industries during the war years and urges upon the

Government of India to take adequate steps to ensure the fullest development of these industries in the near future."

Cane Development and Research

"This Association views with concern the unsatisfactory development of cane generally and its deterioration in certain areas and requests the Indian Central Sugarcane Committee and the Provincial Governments, to immediately investigate the causes of the same. It further urges them to take early steps to ensure proper development of cane on correct lines. In view of the fact that the cost of the raw material forms more than 60 per cent of the total cost of manufacture of sugar, this Association considers that the future advancement of the industry and particularly economy in the cost of production of sugar, mainly depends upon development of cane."

NO DECONTROL OF SUGAR AND GUR—GOVERNMENT'S DECISION IN 1947

There has been a movement initiated by merchants as well as the industry for de-control of sugar prices and distribution, since April 1947. Several Provincial Governments are also reported to have expressed themselves in favour of de-control of sugar. The Indian Sugar Syndicate Ltd. passed a resolution at its extraordinary general body meeting held on the 28th April 1947, making representations to the Central Government in regard to de-control of sugar prices and distribution. The Indian Sugar Mills' Association also addressed a communication to the Government of India favouring de-control of sugar at an early date. In view of all these, the Government of India issued a communique on the 3rd October 1947, stating that they had decided to continue control of sugar and gur. For ready reference a copy of the communique of the Government of India on the subject is given below.

" After a careful consideration of the views of provincial and State Governments, the Government of India have decided to continue the control on sugar and gur. The reasons which have led to this decision are: an overall shortage of sugar in the country, which cannot be made up by imports from abroad due to lack of foreign exchange; the present effective control over the procurement and distribution of sugar, and the certainty of a rise in sugar prices in the event of decontrol of the commodity. This would result in a higher price of sugarcane, which in its turn would upset the present levels of foodgrain prices, particularly in the U.P. and Bihar.

It is also feared that de-control of sugar might divert large quantities to Pakistan, as till March 1948, there will be no trade barriers between India and Pakistan.

With a view to maintaining the normal parity between the prices of sugarcane, sugar and gur, it is necessary that gur control should continue. It is realized, however, that control in the coming season should be better managed than last year, so as to enable the movement of the bulk of the quotas to deficit areas before the monsoon. To ensure the quality of gur, which has presented some difficulties in the past, it is proposed to refer such disputes to a small committee to be set up in the surplus areas, with a representative of the Gur Controller for India on it."

A WORLD SUGAR PICTURE AND INDIA'S POSITION THEREIN

- The Government of India have fixed the target for sugar production at 18,50,000 tons and have sanctioned additional 25 units in 1947. With the creation of Pakistan, however, Government's plan will have to be revised, and India will have to be content with a target of production of 16,00,000 tons, the normal consumption of Pakistan being 2,85,000 tons, out of which 35,000 tons are being produced in the factories which have gone to the Pakistan area.

- The number of working sugar mills in the territory of the Dominion of India will be 135, and in Pakistan 10, capable of producing about 35,000 tons of sugar. The area under cane in the Union of India will be approximately 30,00,000 acres, and in Pakistan, 10,00,000 acres.

- Judging from the reports about the economic and political conditions in Java, it would take at least two years before Java is able to produce the quantity of sugar it did in the pre-war period.

- The Government of India have decided to continue control on sugar and gur, as announced in their communique of October 1947.

- After an almost complete cessation of imports for several years, India imported 30,000 tons of sugar from Cuba in 1947, as a result of the allocation made by the International Emergency Food Council, to reduce the gap between supply and demand in India.

- The area under cane in India, namely, 4 million acres, comes to about 2% of the cultivated area in India, and is approximately 35% of the world's sugarcane area.

- 144 Factories produce sugar by the sulphitation process and 17 by the carbonatation process, the quality of the latter being superior, although with a slightly higher cost.

- The Indian Sugar Industry represents investment of capital to the extent of about 35 crores of rupees. The total annual value of sugar and gur is about 200 crores of rupees (1947), and the *per capita* expenditure works out to about Rs. 5.

- The industry gives employment to 3,000 Graduates, 1,25,000 skilled and unskilled workers, and interests not less than 20 million cultivators.

- There has been progressive increase in the minimum price of cane in India during the last 4 years. The cost of sugarcane works out to 70% of the present cost of sugar.

25th October 1947. M. P. GANDHI

THE INDIAN SUGAR INDUSTRY—(1946-47 ANNUAL)

EDITOR: M. P. GANDHI

(A Review of the Sugar Industry in India during the 1945-46 and 1946-47 Seasons and comments on the 1947-48 Season.)

Introductory

The 1946-47 season in relation to the sugar industry must be characterised as positively poor from the point of view of production of sugar, procurement of cane, profits to the factories, and prevalence of peaceful relations in the industry in all provinces. The year 1946-47 also marked the third year of a successive fall in production from the record high production established during the war period, in the year 1943-44, namely, 12,16,400 tons. In line with the fall in the production of sugar in all countries of the world due to the prevalence of war conditions, production of sugar in India has also shown a declining trend, although it has not been a theatre of war. It is also somewhat surprising that in spite of the endeavours of the Government of India to maximise sugar production after the assumption of control over the sugar industry in 1942, production has shown considerable fall. The reasons for this decline in production are several and varying from season to season. Among those are (1) lack of co-ordination in Government policy, (2) lack of effective control on the manufacture of gur and khandsari, particularly in the cane areas of factories, (3) lack of effective control on prices and movement of gur as well as khandsari sugar, (4) lack of suitable means of transport of cane to factories, (5) difficulties in obtaining raw materials, and stores, e.g. coal sulphur, lime, gunny-bags, etc. in the required quantities and at the proper time, (6) lack of a suitably high price for cane in parity with the prices of other crops like wheat and rice, (7) discouragement to the growth of cane as a result of the admittedly far more important "grow more food" campaign for procuring more food for the people, (8) shortage of the cane crushing season due to the prevailing high prices of gur and khandsari which attract a lot of cane meant for the factories, for the manufacture of gur and khandsari sugar, (9) deterioration of the quality of cane due to prevalence of red rot, borers and other cane diseases, (10) damage to the cane crop by floods, (11) prevalence of dissatisfaction in labour who clamour for higher wages and further amenities, resulting in strikes during the cane crushing season in the fields and factories and consequent disability to crush all the cane available to the factories in some areas, (12) fall in recovery percentage of sugar, (13) fixation of prices of sugar at a level which does not take into account liberally the cost of manufacture, and which does not provide any incentive to the sugar factories to work with zest, (14) absence of suitable roads in the vicinity of factories, and above all (15) the fact that some factories in the U. P. and Bihar were

working at a loss during the last three seasons, due to the abnormally short season, etc. A combination of all these factors from time to time has contributed to the progressive fall in production of sugar during the last three seasons, and this has resulted in a reduction of the allocation of sugar for civilian consumption in the country and introduction of a system of rationing, due to a great gap between the supply and demand, which has been increasing since the outbreak of the second World War, owing to the improvement in the standard of living, the shift of population from rural to urban areas, and to the progressive increase in population.

The one redeeming feature in the year 1946-47 was the success achieved by the industry in its application for continuance of protection which expired on the 31st March 1947, on the recommendation of the Tariff Board, for a further period of one year ending 31st March 1948. We will refer to this in great detail in the subsequent pages as it is a matter of very great importance for the future of the sugar industry in the years to come.

After these preliminary observations, we will now proceed to discuss the position of the industry during the year 1945-46 and 1946-47.

Survey of Conditions in 1945-46 and 1946-47

During the 1945-46 season, production of factory sugar was only of the order of 9,44,800 tons, and during the 1946-47 season, production will be still lower, namely, 9,28,200 tons. These were various reasons which were responsible for this decline in production, the most important of which was the lack of adequate control on gur manufacture in certain areas in the U.P., which left insufficient and low quality cane for the sugar factories, effecting both the total production and recovery percentage. The recovery percentage of sugar in the U.P. and Bihar during 1945-46 was 10.09 and 10.49 while during 1946-47 it fell to 10.02 and 10.09 respectively. The shrinkage in the reserve area in several places, absence of strict control over prices of gur and khandsari sugar, and irregular supplies of cane wagons for transport from outstations were responsible for a great fall in the total production of sugar. It is noteworthy that the U. P. and Bihar together contributed only 6,70,000 tons of sugar as against the expectation of the Sugar Controller for India at the beginning of 1946-47, of a production of 8,00,000 tons. The average duration of the season during 1945-46 worked out to 96 days in U. P. and 79 days in Bihar, while in 1946-47 it is expected to be only about 90 days in U. P. and 70 days in Bihar. Indeed, in some areas, particularly in South Bihar, the duration of the season was hardly 40 to 45 days in the 1946-47 season, which has resulted in a great increase in the cost of production for the factories in Bihar, and due to this fact the price of sugar as fixed by the Sugar Controller proved unremunerative to the factories in South Bihar. The factories in that area have decided to file a test case against Government challenging their authority to fix a price below the cost of production. They also claim the loss which they suffered due to the fixation of price at a level which has resulted in loss.

Handicaps of the Industry in 1945-46 *and* 1946-47

In addition to all these causes, the cane crop in many districts in U. P. was affected by red rot in 1946-47, in Bihar the cane crop was damaged by flood, in Punjab and Kapurthala the cane crop was damaged by red rot and borers, in Bengal, the cane crop was diverted for manufacture of gur, and due to the high prices of gur prevailing in the U.P. and Bihar, supplies of cane could not be attracted to the factories. In Madras, the recovery was very low, and the withdrawal of restrictions placed by the Provincial Government during the last three seasons on the utilisation of cane for purposes other than supplies to factories, during the 1946-47 season, also affected the total production. In Bombay, the factories started late owing to labour difficulties and late rains, and many factories were unable to crush all the cane available to them. The factories in Bombay also had labour strikes and towards the end of the season labour shortage was also noticeable. The recovery in Bombay was also slightly lower in 1946-47 as compared with the previous season. Apart from this, there was recrudescence of labour strikes affecting over 25 factories in the U.P. and Bihar in 1946-47, which caused a loss of roughly 2,500 working hours during the short season. The number of factories working in 1946-47 was 141 as compared with 145 in 1945-46.

The above review will at once make it clear that the industry was greatly handicapped during the year 1946-47. As a result of the shorter season, increased wages, decreased recovery, disturbed working conditions, and deterioration of the quality of cane, a large number of factories were not able to make even normal profits which were allowed to them by the Central Government, and indeed, several factories in U. P. and Bihar had an unprofitable season. The fixation of a higher price of sugar, namely, Rs. 20-14-0 per maund (for D-24 quality) with effect from the 23rd October 1946, which was necessitated by an increase in the minimum price of cane from Re. 0-15-0 per maund in 1945-46 to Re. 1-4-0 per maund in 1946-47, also lost its significance to the factories, due to the abnormal increase in the cost of production of sugar, which resulted in several factories working at a loss. The total quantity of cane available to the factories in the 1946-47 season showed practically no improvement over the previous season, although the price was raised from Re. 0-15-0 per maund to Re. 1-4-0 per maund from the beginning of the 1946-47 season, as a considerable part of the cane in factory areas was diverted to the manufacture of gur owing to the high price at which gur could be sold, almost throughout the season.

Reduction of Ration likely in 1948

A glance at the above paragraphs will show that for three consecutive seasons production of sugar in India has fallen short of even the minimum requirements of the country, and this has necessitated a reduction in the allocation of sugar for domestic consumption to the various provinces. In the absence of any large imports, to which we will refer in the subsequent pages, and of any appreciable increase in production of sugar in 1947-48, we are afraid that even the present ration of sugar will have to be curtailed during the ensuing year, to the great inconvenience of the civilian population.

World Sugar Production—Trend towards increase

Before we pass on to a detailed review of the minimum cane prices, etc. we would like to observe that there has been a general fall in the production of sugar all over the world during the war period, but that is a factor which can well be understood because a large number of the countries which manufactured sugar were directly involved in the war. There was physical destruction of factories on a large scale in Russia and Java, as also in Germany, Poland, Czechoslovakia, France, and Formosa. In other countries, the sugarcane crop suffered neglect due to shortage of labour, fertilisers and mechanical equipment, and defects of transportation. The world production of sugar fell from 30 million tons in 1939-40 to 26 million tons in 1944-45, and 1945-46, but it is expected to reach the pre-war level, namely, 30 million tons in 1947-48. The production in India which has been completely self-sufficient in respect of its sugar requirements has fallen precipitately since 1939-40, except during the year 1943-44 when the production recorded a high level of 12,16,400 tons.

We have already analysed briefly the reasons for this fall in production in India and have shown how this scarcity has resulted in a reduction of the ration of sugar all over the country.

Lower Sugar production due to greater necessity of foodcrops

We feel that if the minimum prices of sugarcane were fixed higher than they were, it would have been possible to increase production of sugar, but perhaps such increased production would have been at the expense of production of other food crops like rice and wheat, of which there has been a very acute shortage almost bordering on famine conditions during the last two or three years, which has necessitated the import of large quantities of cereals from foreign countries. In this view of the matter, it would be incorrect and uncharitable to allocate the blame for a fall in the production of sugar on the Government of the country for they had to act cautiously and had necessarily to give a higher priority to production of food crops which were vital to the very existence of millions in the country.

While, therefore, increased production of sugar would have been welcome to all concerned, it would be incorrect to apportion the blame on the Government which had to take a realistic view of the situation and to ensure production of food crops in preference to sugar for obvious reasons, in the context of the prevalence of famine conditions in general in the country.

Having referred to the general question of shortage of sugar production in India and in the world during the last few years, we will now turn to a review of the minimum cane prices in 1945-46 and 1946-47.

Non-varying Minimum Cane Prices in 1945-46

In September 1945, the government of U. P. announced the minimum price of sugarcane at annas 14|6 per maund at the factory gate while the government of Bihar fixed the price at annas 15 per maund. The Punjab and Bengal governments fixed the price slightly higher, viz. at Re. 1 per maund in the Punjab and Re. 1-2-0 per maund in Bengal. In Madras, the price fixed varied from Rs. 20 to Rs. 24 per ton in 1944-45

and Rs. 21 to Rs. 26 in 1945-46. The price fixed in Mysore was Rs. 21 per ton in 1944-45 as compared with Rs. 18 in 1943-44.

In some areas and at certain times of the seasons factories have had to pay slightly higher prices also for their cane.

Non-varying Minimum Cane Prices in 1946-47

In the season 1946-47, the U. P. and Bihar governments fixed the minimum price of cane at Re. 1-4-0 per ton as compared with the price of 15 annas in the previous season, the price of sugar having been increased by Rs. 4-10-0 per maund, from Rs. 16-4-0 in the previous season to Rs. 20-14-0 with effect from 23rd October 1946. The price of sugar in the Punjab and N.-W.F.P. was fixed higher by Rs. 3-2-0 per maund than the above price. Thus the price of D-24 quality of sugar in the Punjab and N.-W.F.P. has been fixed at Rs. 24 per maund as against Rs. 20-14-0 per maund elsewhere in India.

Cane-Cess in U. P. and Bihar in 1946-47

The governments of U. P. and Bihar also levied a cess at the rate of one anna per maund of sugarcane which entered the areas comprised in the sugar factories. No deduction of amount was allowed from the price of cane and the minimum price fixed remained the same throughout the season. Thus an uniform price of sugarcane for all the sugar factories in the U. P. and Bihar was operative throughout the 1946-47 season. Towards the end of the season, however, some factories had to pay an amount slightly higher than the minimum price fixed, with a view to attracting cane supplies. The cane-growers had asked for higher prices still, but in consideration of the effects of any such step on the foodcrops, and on the increasing spiral of prices, the Government considered that a higher price was not justifiable.

Transport position of Cane during 1946-47 *Season in the U. P. and Bihar*

We give below a short note on the transport position of cane during the 1946-47 season in the U. P.

" The season 1946-47 has shown a little higher crush than the previous one. The standing instructions with regard to opening of rail centres lying within 10 or beyond 25 miles of a factory were often relaxed in respect of stations lying in the restricted area except those which involved difficulties for the railways in operating and the percentage of rail-borne cane to the total cane crushed by the factories has in consequence risen to 29.70% against 19.8% of the last year. The total number of wagons allotted on O. T. Railway was reduced to 77,760 as against 92,000 of last year and increased from 390 to 498 on E. I. Railway. On both the railways, however, the actual number of wagons supplied was below what was indented by the factories with the result that only about 88% of the total allotment was made available to the sugar factories. Complaints were received from a number of sugar factories that running of cane pilots and daily allotment of wagons was irregular which affected the off-take of sugarcane from outstations.

The total crush by the sugar factories in U. P. has gone upto 14.27 crore maunds during the 1946-47 season as against 13.94 crore maunds of last year, but this figure would have been much higher had not the

industry to face a number of other problems. Besides transport difficulties as stated above, there was unrest amongst the factory labour for higher wages and among the cane-growers themselves to withhold supplies for higher prices. Lack of strict control over the price and movement of gur during the early months of the year also affected the supply considerably.

An appreciable quantity of cane is also drawn by the factories by road. But due to the prevailing economic conditions, transport by bullock carts was rather prohibitive. Shortage of petrol was a contributing factor in the non-availability of cane from road centres to the factories."

The situation in regard to transport of cane in Bihar was also similar, and the factories were greatly handicapped in the matter of cane supplies during the 1946-47 season due to paucity of wagons, and the shortage of petrol required for running transport vehicles carrying cane by road to the factories.

Duration of the 1946-47 *Cane-crushing Season*

In the 1946-47 season, 141 factories only were working as compared with 145 during the 1945-46 season. Generally, the cane crushing season commenced towards the end of November and majority of factories started crushing late in the season as compared with the year 1945-46. Similarly cane crushing came to a close towards the end of April 1947, when practically all factories in U.P. and Bihar stopped work, whereas in the 1945-46 season several factories were working until May 1946. Bulk of the factories in U.P. worked between 80 to 110 days, while two worked between 140 to 149 days, and two worked below 60 days. In Bihar, no factory worked more than 89 days and 5 worked below 59 days during the 1946-47 season. Two tables in the portion of this *Annual* entitled " Sugar Industry at a Glance ", namely, Nos. 3 and 8, show the total production of sugar and molasses and recovery of sugar and molasses during the 1946-47 season, and the average capacity and the average cane crushing season in the year 1945-46.

Production of Factory Sugar (in tons) by Provinces
in 1945-46 *and* 1946-47

The table below gives provincewise the production of sugar in factories during 1945-46 and 1946-47, along with the quantity of cane crushed during each of the seasons :

Provinces	Cane crushed (Tons) (1945-46)	Sugar made (Tons) (1945-46)	Cane crushed (Tons) (1946-47)	Sugar made (Tons) (1946-47)
United Provinces ...	5,113,300	515,900	5,195,334	5,20,423
Bihar ...	1,683 000	176,600	1,491,038	1,50,504
Punjab and N.-W.F.P. ...	115,400	10,400	159,419	14,391
Madras ...	549,200	49,200	623,185	51,178
Bombay ...	660,200	72,400	668,176	70,041
Bengal ...	244,200	22,600	222,206	20,184
Orissa ...	20,900	2,100	22,000	2,299
Indian States ...	973,300	95,600	1,031,126	99,186
	9,359,500	944,800	9,412,384	9,28,206

A glance at the table given above will show that in the largest sugar producing area, namely, U.P. and Bihar, production in 1946-47 was smaller than the previous season although there were expectations at the beginning of the season that the production would be considerably higher. As explained in a previous paragraph, the shortfall in production was due to the reduction in cane supplies which were drawn away for the purpose of manufacture of gur and khandsari sugar as a result of the high prices of gur and khandsari, the lack of proper control on their manufacture, prevalence of red rot in cane in the U.P., outbreak of strikes in no less than 25 factories in the U.P. and Bihar, fall in the recovery percentage, etc. Production in Bombay also fell due largely to labour trouble and labour shortage, while the fall in Bengal was due to insufficient cane supplies. It is noteworthy that a large number of factories in South Bihar worked for a particularly small number of days, only about 40-45 days during the entire season, and this has been responsible for a great reduction in the production of sugar in Bihar.

The cane crop during the next year in the U.P. and Bihar is about the same and it may be expected that the production during 1947-48 will be almost similar to the production in 1946-47. There is, however, a grave danger of smaller production in Bihar due to the fact that the cane crop in Bihar has been affected adversely this season, due to which the cost of production of sugar in South Bihar is also expected to be higher than the cost in other parts of North Bihar, and the U.P.

Rise in Sugar Prices since 1942

It will be generally agreed that although there has been a tremendous increase in the prices of various other articles of food like wheat and rice during the last 5 years, the increase in the price of sugar has been extremely moderate due to the fact that the industry has been controlled rigorously by the Government of India.

We have given a Table (*Vide* Table No. 38), in the " Sugar Industry at a Glance" showing the index numbers and price of wheat, rice, sugarcane, sugar, and gur during the last seven years. August 1939 has been taken to be the base year.

A glance at that Table (Table No. 38) will show that while the wheat index number went up from 100 to 410, and of rice to 392, the index number of sugar was only 218 in September 1947. There again it should be noted that the index number of sugarcane, which is the principal raw material for the manufacture of sugar, and which approximates to over 60% of the sugar price, went up to 167.

The index number of sugar went up to 218 in November 1946 as a result of the increase in the price of sugar to Rs. 20-14-0 per maund with effect from October 1946, and the index number of sugarcane went up to 167 in November 1946, as a result of the higher price for cane, i.e. Re. 1-4-0 per maund, with effect from the 1946-47 season.

It will be seen from the above that cane and sugar prices have been controlled by the authorities right from the beginning, and distribution of sugar was canalised through Government agencies which left no room for profiteering by the sugar manufacturers. Moreover, the controlled rates of sugar prices were arrived at after a thorough and detailed investigation of all items entering into the cost of manufacture.

As a matter of fact sugar manufacturers and cane cultivators have been representing to the authorities for the last 3 years in regard to the necessity of an increase in cane prices and with it in the prices of sugar, but the Government of India, apprehending the effects of increase in the price of sugarcane on other agricultural commodities like rice and wheat have given a minimum increase in the price of sugarcane. It is well known that this reacted unfavourably on the industry as the total quantity of cane supplied to the factories has undergone a decrease. Other industries, like for instance, cotton, have had relatively higher prices fixed for their manufactures and have been able to show better profits during the war period, but such an opportunity was denied to the sugar industry which has had to work on a small profit, and indeed, in the last two seasons several factories have shown losses on their working. This has been due to the fact that a proper allowance has not been made by the Government of India for the increase of cost of manufacture consequent on enhancement of prices of raw materials, increased wages, shorter season leading to increased cost, lower recovery, etc. We shall refer to this aspect shortly in detail in order to emphasise the great necessity of allowing a suitable increase in the price of sugar to the sugar factories, for ensuring that they are able to lay by sufficient reserves for replacements and renewals of machinery, derive suitable profits, give a fair return to the investors, and are able to attract sufficient capital for establishing 45 more factories in the years to come, in order to increase the production and reach the target production of 18½ lakhs tons of sugar fixed by the Government of India.

Sugar Industry's Controlled Profits

It is commonly acknowledged that as a result of the rigid control instituted by the Provincial Governments as well as the Government of India over the sugar industry for the past few years, particularly after 1942, when the Sugar Control Order was passed by the Government of India, the sugar industry has been compelled to work under conditions in which it has not been possible for many factories to derive even normal profits which can be reasonably expected by an industry. As a result of the control over the prices of sugarcane by the Provincial Governments, and the fixation of prices of the manufactured products, viz.: sugar as well as molasses, the amount of profit which the industry has been allowed to make has been extremely meagre. No opportunity has been allowed to it to make larger profits, even during the war period, like for instance, in the case of the Indian Cotton Textile Industry.

What is more, as the Sugar Controller fixes the price of sugar on the basis of the various items which enter into the cost of production of sugar, making an allowance of 10% profit on the block, the industry has had no opportunity of making a handsome profit in any year, particularly because, although its cost of manufacture went up, it was allowed only this 10% which was fixed in the beginning by the Sugar Controller, and in arriving at the price of sugar to be fixed from year to year, the basis of the computation of cost has not been altered by the Sugar Controller to suit the circumstances of every season, and this has resulted in a great deal of dissatisfaction being caused in the minds of the sugar industrialists. It may be explained that the existing

basis of sugar price fixation depends upon the scale fixed by Mr. R. C. Srivastava, a former Director of the Imperial Institute of Sugar Technology, in the year 1938-39, on the basis of the working seasons of 1936-37, and 1937-38, when ample cane supplies were available, for allowing manufacturing expenses. What is more, the profit margin allowed under the controlled rate has been maintained at the pre-war level, that is, 10% of the original block, but consequent on the increase in tax rates, a very substantial part of the profit is absorbed by higher taxation, leaving a very small margin to the factories. It has been represented that on this account the profit margin should be increased adequately. It has also been urged that adequate care should be taken in estimating the duration of season and recovery percentage of sugar while calculating the price so as to guard against any wide diversity between estimates and actuals which renders the prices inappropriate involving factories in loss, as has been the case during 1944-45, and particularly in 1945-46. And indeed, during the 1946-47 season also a large number of factories have sustained serious losses due to the estimates of the U.P. and Bihar Control Board, and the Sugar Controller not being reached.

How Sugar Prices are Determined and Fixed

In this context, it would be useful to explain in detail the procedure which is now followed in fixation of sugar prices every season. The prices of sugar manufactured all over the country are fixed every year at the beginning of the cane crushing season by the Sugar Controller for India, who is assisted in this task by his Advisory Committee. For all practical purposes, the Joint Sugar Control Board of U.P. and Bihar makes its recommendations to the Sugar Controller at the beginning of the season and generally these recommendations are adopted by the Sugar Controller. There are four items which comprise the price of sugar, namely, cost of cane per maund of sugar (including the minimum price of cane fixed along with the cess, if any), manufacturing expense per maund of sugar, excise duty, and profit. The price of cane per maund of sugar varies with the recovery of sugar. The industry submits its own estimates for the items of manufacturing expenses which comprise the cost of salaries and wages, cost of raw materials, etc. Of late, there has been a great divergence between the views of the industry and the Government in regard to the components of the manufacturing cost and the industry, feeling dissatisfied at the method adopted by the Government, has gone to the length of preparing its own scale certified by a firm of Chartered Accountants. For instance, the industry has pointed out that Mr. Srivastava's scale does not specify the manufacturing cost of any season of less than 100 days, although during the last 3 years generally the season has been far shorter. In regard to the 10% profit allowed on the block, while it would be considered acceptable in the pre-war period, when the rate of taxation was between 15% to 20%, it can no longer be held acceptable now, when the rate of taxation had gone up very much higher, namely, between 35% to 40%.

Correct Method of Fixing Sugar Prices

The industry therefore suggested that the percentage should be increased adequately so that, after meeting taxation, the factories may

be left with a fair and reasonable margin of profit comparable with the profits of other industries, in appreciation of what the industry has done all throughout the war period to supply sugar at reasonable rates and thus allowed the people of the country to see for themselves the benefits arising out of the deliberate policy of protection to important national industries.

The industry also pointed out in the course of its representation to the Tariff Board in January 1947, that during 1944-45 and 1945-46 a large number of factories in U.P. and Bihar had not been able to make even the standard profit allowed to them under the controlled rates fixed by the Government for 1944-45 and 1945-46. The industry also showed that after a careful computation of the working results of factories in these two seasons, the factories in U.P. actually lost Re. 0-3-6 per maund in 1944-45 from the standard profit allowed to them, viz.: Re. 0-14-1.1 in 1944-45, and lost Re. 0-5-0 per maund out of the standard profit allowed to them, viz.: Re. 1-2-3 per maund in 1945-46; while the factories in Bihar lost Re. 0-5-0 per maund out of the standard profit of Re. 0-14-7 fixed for the year 1944-45, and Re. 0-9-0 per maund in 1945-46 out of the standard profit fixed at Re. 1-5-3 per maund.

Present Basis of Fixing Sugar Prices

In order to illustrate the points that we have made in the above paragraphs, we are giving below two tables indicating how the ex-factory sugar price for D-24 quality of sugar is fixed for the U.P. and Bihar. The first table below gives the calculation of ex-factory sugar prices for U.P. and Bihar for the season 1945-46, while the second table gives a similar statement for the calculation of ex-factory prices for U.P. and Bihar for the 1946-47 season, as prescribed by the U.P. and Bihar Sugar Control Board, on the basis of which sugar prices are fixed for all the factories in India, by the Sugar Controller.

Statement showing Calculation of ex-factory Sugar Price for D-24 Quality for U.P. and Bihar for the season 1945-46

Season Recovery	U. P. 110 days 10%	Bihar 100 days 10·6%
	Rs. as. p.	Rs. as. p.
1. Price of cane	8 15 9	8 13 6
U. P.—0-14-6 per md. at gate and 0-14-0 per md. outstation (75% Gate) (25% Outstation). *Bihar*—0-15-0 per md.		
2. Basic Manufacturing Expenses	1 13 8·4	1 14 9
3. Cess at 0-1-0 per md. of cane	0 10 0	0 9 5
4. Transport charges	0 2 0	0 2 0
5. Co-operative Societies Commission	0 2 3	0 0 9
6. Insurance, storage and deterioration	0 1 0	0 1 0
7. Excise Duty ...	2 3 3	2 3 3
8. Profit 10% on a Block Capital of Rs. 18 lacs ...	0 14 1·1	0 14 7
9. War expenses	1 7 4·7*	1 7 4·7*
Total ...	16 5 5·2	16 2 7·7
10. Deduction for molasses	0 1 6	0 1 6
Or, say ...	16 3 11·2	16 1 1·7
	16 4 0	16 1 0
Or ...	16 4 0	for D—24

Increases in Basic Allowances Accepted

1.	Sulphur	150%
2.	Power and fuel stores	150%
3.	Salaries and Wages	80%
4.	Packing	160%
5.	Repairs and renewals	200%

Basic Allowance (included in Basic Manufacturing Expenses) for a Season of 110 days and 10% Recovery

1.	Sulphur	0	0	11·2
2.	Power and fuel stores...	0	4	8
3.	Salaries and Wages	0	9	1·9
4.	Packing	0	2	0
5.	Repairs and renewals	0	2	3
6.	Overhead charges	0	10	8·3
		1	13	8·4

** Increases allowed due to War Expenses*

1.	Sulphur	150% of 11–2	= 0	1	4·8
2.	Power and fuel and other stores	150% of 4–8	= 0	7	0
3.	Salaries and Wages ...	80% of 9–1	= 0	7	3·9
4.	Packing	160% of 2–0	= 0	3	2
5.	Repairs and renewals ...	200% of 2–3	= 0	4	·6
			1	7	4·7

The allowance in Bihar calculations has been assumed to be the same (as the basic manufacturing expenses are practically the same as in U.P.)

The increase allowed for salaries and wages is based on the fact that Bihar Government propose to raise the minimum wage including dearness allowance for non-technical labour to 0–12–0 a day. The pre-war figure was 0–6–0 a day.

Statement showing Calculation for ex-factory Sugar Price for D-24 Quality for U.P. and Bihar in 1946-47

		U. P. 100 days 10%			Bihar 90 days 10.5%		
		Rs.	a.	p.	Rs.	a.	p.
1.	Cost of cane at Re. 1-4-0 per maund ...	12	8	0	11	14	6
2.	Cess at 0-1-0 per maund	0	10	0	0	9	6
3.	Transport	0	2	0	0	2	0
4.	Co-operative Societies commission	0	2	3	0	0	9
5.	Basic Manufacturing Expenses	2	0	3	2	1	3
5A.	Additional allowance in Basic Expenses due to increase in price, etc.	1	14	9	2	0	6
6.	Extra cost of insurance storage and deterioration and interest	0	1	3	0	1	3
7.	Profit at 10% on a Block Capital of 18 lacs ...	1	2	3	1	5	3
7A.	Additional margin for reserves	0	4	0	0	4	0
8.	Excise Duty	2	3	3	2	3	3
	Total	21	0	0	20	10	3
9.	Deduction for molasses	0	1	6	0	1	6
	Net sugar price	20	14	6	20	8	9

For the year 1946-47, a recovery of 10% was estimated for U.P. and 10.5% for Bihar, while the actual recovery was far smaller. The length of the season which was estimated at 100 days for U.P. and 90 days for Bihar also turned out to be far smaller.

In the original schedule prepared in 1938 by Mr. Srivastava, a former Director of the Imperial Institute of Sugar Technology, Cawnpore, no estimates were made for seasons with less than 100 working days and this is also responsible for the computation of costs at a lower rate than was actually the case due to the crushing season being smaller during the last 3 years. According to the industry, a suitable allowance was also not made in respect of salaries and wages.

For the purpose of appreciating the viewpoint of the industry, we give below a table from the memorandum submitted by the Indian Sugar Syndicate to the Indian Tariff Board on the 22nd January 1947, indicating the manufacturing cost as per the actual working of the factories of U.P. and Bihar as compared with the manufacturing cost estimated by the Sugar Control Board.

Season	Average No. of days of actual working		Mnf. cost estimated by Sugar Control Board		Mnf. cost as per actual working	
	U.P.	Bihar			U. P.	Bihar
1940-41	100	100	2-10-1		...	...
1941-42	78	54	2-12-8		...	...
1942-43	112	96	2- 4-6		...	...
1943-44	131	93	2-15-2		...	...
-			U.P.	Bihar		
1944-45	98	78	3- 5-4	4-1- 3	3-13- 2	4- 5-11
1945-46	95	79	3- 5-1	3-6-10	3-10-10	4- 4- 3
1946-47	98*	78*	3-15-0	4-1- 9	4- 9-10	4-14- 0

Syndicate's estimate.

(The season 1943-44 is only an apparent exception; for in that year the Governments of U.P. and Bihar reduced the cane price late in the season to enable factories to crush all the surplus cane remaining in the fields and the factories fulfilled this moral obligation for the sake of growers. That was a year of crisis and should be left out of account.)

A glance at the table will show that as against 120 days considered by the Tariff Board as the normal season, the factories in U.P. and Bihar, not less than 100 in number, have been having a series of short crushing seasons during recent years. The above also gives the average duration of the season in the U.P. and Bihar factories as well as the average cost of manufacture during the past 7 years. The Syndicate also explained that in war time, replacements for factories were difficult and even now they are only available at twice or thrice the original cost. These increased costs of replacements and additions were beyond the capacity of the industry to pay because the industry itself did not

have the same spell of prosperity as other industries enjoyed during war time, and had consequently less reserves than are necessary to meet the extra costs. For, sugar was the earliest commodity to come under control by Government, and the profit margins, especially of U.P. and Bihar factories, have always been strictly limited under the scheme of sugar price calculations. The Syndicate also urged that majority of the industry in U.P. and Bihar have not got sufficient funds to purchase the necessary equipment for increasing efficiency at present costs, and they are not in that position of vantage as they should be in, to face competition now or in the near future.

It is hardly necessary for us to go in greater detail into these items. All that we wish to point out is that the computation of basic manufacturing expenses and additional allowance has been made in a very stingy manner, and in addition to this the allowance for profit has also been made at the same 10%, although it is clear that the rate of taxation has gone up very much higher during recent years.

Sugar Controller's Views Regarding Price Fixation

In reply to a question by the Tariff Board, Mr. N. T. Mone, Sugar Controller for India, also observed that the profit of 10% allowed on the block capital for purposes of arriving at the price of sugar was in accordance with the recommendation made by the Tariff Board of 1937, and it was intended to allow 2% for reserve, 2% for taxation and 6% for investors. The present position was that the factories had to pay 4% for taxation, and even if 2% was taken as reserve, the balance left as profit was only 4%. The Sugar Controller also observed that only 15 factories had made a profit of 11% in 1945-46 and a very large number had shown loss.

The situation in respect of profits of factories for the year 1946-47 is much worse. We, therefore, trust that the Government of India will take the fullest care in fixing prices of sugar for the 1947-48 season, and be liberal in fixing the price, both in order to let the factories work at a fair and reasonable profit and also enable them to recoup the losses of the previous two seasons.

Central Government's Subsidy to U.P and Bihar Sugar Factories to compensate for Additional Labour Charges

During the 1946-47 season, the price of sugar was increased to Rs. 20-14-0 per maund, but in fixing that price, no allowance had been made for the higher manufacturing cost referred to by the industry, although it was pointed out by the Indian Sugar Syndicate that a large number of sugar factories in U.P. and Bihar actually worked at a loss and the remaining worked with a minimum of profit. During the 1946-47 season the sugar factories in U.P. and Bihar had to incur additional expenditure in giving effect to the recommendations of the Joint Sugar Factories Labour (Wages) Enquiry Committee constituted by the U.P. and Bihar Governments in January 1947. They could not afford to pay such increased wages and allowances in view of the fact that the price of sugar was fixed by the Government of India without making any allowance for any such additional expenditure. The Government of India therefore decided towards the end of the season 1946-47 to pay a

subsidy to every sugar factory in U.P. and Bihar for compensating them at a flat rate of 9 annas per maund on all sugar produced by the factory during the season 1946-47, out of the proceeds of the temporary additional excise duty, levied in 1946-47, which is calculated to bring over Rs. 1,25,00,000. About Rs. 1 crore will be paid in subsidy out of this. It must be stated, however, that the sum of 9 annas per maund, represented the actual expenditure incurred by the factories in giving effect to the Sugar Factory Labour Enquiry Committee's recommendations, and made no allowance whatsoever for the increased cost of manufacture owing to short season and lower recovery. *The result has been that a large number of factories in U.P. and Bihar have not only not been able to earn even the profit normally allowed to them, but have indeed worked at a loss, again in* 1946-47.

Suitable Change in Scale for fixing Sugar Prices Inevitable

We cannot but feel that this is a situation which should be remedied at once, and the Government of India should immediately set up a suitable enquiry for devising a proper scale for manufacturing expenses in consultation with the sugar industry on the basis of which sugar prices for the current and subsequent seasons should be fixed, and a suitably higher profit than the present 10% should be allowed in order to permit the factories to derive a reasonable margin of profit, to lay by sufficient reserves for replacements and renewals of machinery, the prices of which have gone up by at least two to three hundred per cent over the pre-war base figure.

Allocation of Sugar by International Emergency Food Council to meet the Shortage in India in 1947

The production of sugar since 1943-44 has been considerably less than 10 lakhs tons every year, and in spite of the fact that efforts have been made by the Sugar Controller since 1942 to maximise production, it has been progressively falling (*vide* Table No. 1, under "Sugar Industry at a Glance"), and this fall in the production of sugar has been responsible for a curtailment of supplies to the civilian population. It would be no matter of surprise if during the year 1947-48 the allocation of sugar to the various provinces would be curtailed further as a result of the reduced production, smaller carry-over, and the expected production in 1947-48 being not much higher than in 1946-47. Nor is it possible to get any supply of sugar from foreign countries due to two reasons, firstly the dependence on allocations of sugar from the free markets to India by the International Emergency Food Council, and secondly the exhorbitantly high prices of such sugar as compared with the prices of sugar in the country.

International Emergency Food Council's Allocation of 1 lac tons to India in 1947

During the year 1947, the International Emergency Food Council allotted 30,000 tons of sugar to India at controlled price, and a further 70,000 tons from the free markets. The quantity of 30,000 tons has been accepted from Cuba by the Government of India and is likely to arrive in India in November or December 1947, at rates very similar

to the rates of Indian sugar in the Indian market. This will be helpful in filling the gap between production and the allotment already made by the Sugar Controller during 1946-47. We understand that the Government of India do not wish to avail themselves of the allocation of the further 70,000 tons of sugar for 1947, made by the International Emergency Food Council, firstly because the prices are high, about *three* times higher than the price of Indian sugar, and secondly because it is not possible to obtain the necessary Dollar exchange for import of such sugar, which is after all not as indispensable as foodgrains of which there is a great shortage. We understand, as we go to press, that India has been allocated a quantity of 1,78,000 tons of sugar by the International Emergency Food Council in June 1947, as a result of the revised allocations made in June 1947.* We agree with the reported intention of the Government of India not to avail themselves of the offer of this quantity, particularly because it could not be obtained at controlled rates, and it would not be possible to absorb this sugar in India at such a high rate without involving the Government of India in a very heavy loss in subsidy as this sugar can only be sold at the same price as Indian sugar is being sold, namely, Rs. 20-14-0 per maund, while the price of imported sugar on the basis of the present information would work out to about Rs. 60 per maund.

Reduction in Sugar Allotment likely in 1948

In view of this prospect of no further imports, and normal production in 1947-48 it is quite natural to expect a reduction in the allocation of sugar to various provinces next year, i.e. in 1948.

Lower Cane Price results in Lower Acreage under Cane

There is no doubt that the shrinkage of the area under cane is due to the fixation of lower prices of cane which has resulted in giving to the cultivator of cane a return smaller than the return from other alternative crops like rice and wheat. This factor has been further aggravated by the fact that the cultivator has found it more profitable to grow grain some of which can escape control and can be sold at high prices in the black market, which is impossible in the case of sugarcane which is a perishable article and cannot be hoarded and which has to pass through the bottleneck of factories. There is no possibility therefore, for him to add to his revenue by hoarding up cane, which is possible in the case of grains which fetch high prices in the black market.

In view, however, of the imperative necessity of production of more foodgrains for sustaining the population, Government cannot be blamed if they encourage production of cereals at the expense of sugarcane, which after all is not very vital for our existence. However useful as an article of diet sugar may be considered, it certainly cannot be ranked along with cereals, and therefore, has to take a second place.

---

* *Vide* Table 36 in the "Sugar Industry at a Glance" showing the International Emergency Food Council's allocations to various countries of the World in 1947.

Central Sugar Control since 1942

In our previous *Annuals*, we have referred in detail to the institution of sugar control and have also referred to the functioning of that control right up to the 1945-46 season. Generally, it can be stated that although operation of the control was felt irksome towards the period of commencement, it has worked fairly successfully during the later years, as a result of the improvement made in the machinery of control from year to year. This is not to say that black market operations did not exist in this white commodity, sugar, or that sugar is distributed equally among the people in all parts of the country. It must be stated, however, that on the whole, control over sugar has worked satisfactorily with the exception of a few places where black markets flourished sometimes, due to the great shortage of sugar, and the defects in the channels of distribution of the Provincial Governments and Indian States. While distribution of sugar in urban areas is more or less satisfactory, the distribution in rural areas and small villages leaves much to be desired, particularly because the quantum to be distributed is very small. It would be indeed difficult to remove these defects completely until the present lack of balance between the supply and demand is remedied to a very great extent, and we therefore suggest that strenuous efforts must be made by a well-co-ordinated policy, to increase the production of sugar.

De-control of Sugar Suggested in 1947

In this connection we would like to state that during the year 1947 a tendency was noticeable on the part of various Provincial Governments to suggest de-control of sugar in view of numerous complaints received from consumers in regard to the operation of control, but opinion in this matter has not yet crystallised and several provinces and the Central Government yet favour retention of control. We also feel that all things considered, it is better to retain the present control than remove it because the operation of control at least ensures availability of a certain stipulated quantity of sugar at controlled rates. Besides, with the partition of India and the creation of a separate Dominion of Pakistan, it would be in the interest of India to maintain control over sugar as some quantity of sugar will have to be made available to the Dominion of Pakistan because production in their area will be far smaller than the supply required by them on the present basis. If sugar is de-controlled in India, any quantity may move to Pakistan and this may add to the discomfort of the people of the Union of India. Besides, it would be a bargaining counter in the hands of the Government of India for getting supplies of foodgrains, of which Pakistan is likely to have a surplus.

Sugar Control should be maintained

We therefore strongly urge that until the present lack of balance between supply and demand of sugar is remedied either by increasing production of sugar from within the country, or by importing, if possible, from foreign countries,—of which there is no possibility, at any rate, within the next year or two—control of sugar, central as well as provincial, should not be given up.

After the above paragraph was written, the Government of India's communique appeared on the 3rd October 1947, intimating their decision not to withdraw the control on sugar. We give below the text of that communique :—

Sugar and Gur Control to continue—Government's Decision in 1947

" After a careful consideration of the views of Provincial and State Governments, the Government of India have decided to continue the control on sugar and gur.

The main reasons are an overall shortage of sugar in the country, which cannot be made up by imports from abroad due to lack of foreign exchange ; the present effective control over the procurement and distribution of sugar, and the certainty of a rise in sugar prices in the event of de-control. This would result in a higher price of sugarcane, which in its turn, would upset the present levels of foodgrain prices, particularly in the U.P. and Bihar. It is also feared that de-control of sugar might divert large quantities to Pakistan, as, till March 1948, there will be no trade barriers between India and Pakistan.

With a view to maintaining the normal parity between the prices of sugarcane, sugar and gur, it is necessary that gur control should continue. It is realised, however, that control in the coming season should be better managed than last year so as to enable the movement of the bulk of the quotas to deficit areas before the monsoon. To ensure the quality of gur, which has presented some difficulties in the past, it is proposed to refer such disputes to a small committee to be set up in the surplus areas, with a representative of the Gur Controller for India on it."

Gur Control since 1942

In pursuance of the policy of maximisation of sugar output and the consequent need to ensure adequate supplies of sugarcane at the minimum price fixed by the Provincial Governments of U.P. and Bihar, it was found necessary to discourage the output of gur and regulate its production and movement. With this object in view the Gur Control Order was passed to regulate the prices and production of gur. The decision to regulate prices and distribution of gur was arrived at by the Food Conference held in New Delhi early in 1943 and the Order was accordingly promulgated on 24th July 1943, in the background of the conditions described above.

The Order is a very comprehensive one and later on amendments have been made from time to time to correct the defects noticed in the working of the Order. In 1947, the present Gur Control Order was enforced. Under it a Gur Controller for India who is also the Sugar Controller has been appointed with the following powers :—

(1) To fix maximum prices of gur in any specified area ;

(2) To prohibit or restrict cane movement from any particular area :

(3) To direct cane growers in that area to deliver cane (*a*) to a particular sugar factory, (*b*) in such quantity, (*c*) at such prices and (*d*) at such times as may be specified by the Controller.

(4) To prohibit or restrict manufacture of quantities or qualities of gur.

(5) To allot gur quotas to provinces or areas and direct producers and dealers to deliver the same, and

(6) To prohibit gur movement and transport.

From the comprehensive nature of the powers given by the Order it will be clear that the authorities are anxious to afford all facilities to mills for increasing the output of sugar. It will also be clear that the authorities are equally anxious to control prices and arrange movement in an orderly manner and relieve the strain on transport. A larger production of gur would necessarily mean delay in the allotment of wagons to factories as gur being a perishable commodity will have to be accorded priority. Another important consideration is that there should not be any great diversion of demand for sugar from consumers of gur. The consumption of gur in India in rural areas is very great amounting to nearly three times that of sugar. Unnecessary restriction either on the movement or production of gur will cause hardships for the poor and at the same time create more demand for sugar.

The *prohibition of the manufacture of gur within a certain area* from the factories and the direction of supplies of cane to particular factories are intended to help mills in getting cane supplies and are therefore in favour of the mills. A ban has also been imposed on the movement of gur either by rail, land or river except under a permit obtained from the Gur Controller to that effect, and Provincial Governments have also put restrictions from time to time on the movement of gur, as has been shown elsewhere.

The Gur Control Order mainly affected the surplus producing areas, namely, the U.P., Bihar and Madras. All other areas were *deficit areas which would have to import gur to meet their internal* requirements. Even though the Punjab is an important producer of gur, it imports nearly 5 lakhs tons of gur from the N.-W.F.P. and the U.P.

While the aim of the Gur Control Order was certainly laudable as it was the first and important measure designed to help sugar producers in preference to gur manufacturers and ryots, there was general apprehension that the strict enforcement of the Order would affect adversely sugarcane crop and acreage. For a detailed review of the working of this Gur Control in the earlier years, we invite the readers' attention to the 1945-46 *Annual*, page 31, *et seq.*

Since the 1943-44 season, the Governments of the U.P. and Bihar have been controlling manufacture of gur and movement of gur in factory areas and they have also banned on some occasions export of gur to any area outside the province in U.P. The Bihar Government also banned export of gur from the province in the earlier period and also in 1946.

U.P. bans Gur Manufacture in Factory Areas in 1946-47

In 1946-47, the Governments of U.P. and Bihar banned manufacture of gur in factory areas and made efforts for arranging supplies of

gur at as low a level of price as possible, but there were insuperable difficulties and none of these efforts succeeded in its aims. The popular Governments were unable to make up their minds between (1) the need of increased sugar production, and (2) alienation of the sympathy of cane-growers by discouraging gur production unduly. In the 1946-47 season the U.P. Government issued a Press Note stating that they had decided, after consultation with the Government of India, that the statutory control of wholesale prices and gur exports will continue during the 1946-47 season. The Government of India continued to allot export quotas to deficit areas on an all-India basis as before. The export price for standard quality gur was fixed at Rs. 12 per maund with suitable increments for superior quality. The U.P. Government also introduced a scheme whereby despatch of gur outside the province was fully on a Government-to-Government basis.

Bihar, Bengal and Punjab restrict Movement and Manufacture of Gur

The Bihar Government, by a notification dated the 10th December 1946, imposed certain restrictions on the inter-district movements of gur in the Patna and Tirhut divisions. They also fixed the price of gur at Rs. 12 per standard maund and continued the ban on export of gur from the province.

The Bengal Government also passed orders prohibiting any person from manufacturing gur from cane within the zone prescribed for sugar factories, till 15th December 1946. Each factory was assigned particular zones for supply of sugarcane. They took this action with a view to making larger quantities of cane available to the sugar factories. The Punjab Government also banned, under the Gur Control Order, export of sugarcane for the manufacture of gur in the districts of Sialkot and Gurdaspur.

Alterations in Gur Policy in the U.P. in 1946-47

On a review of the gur control policy of the U.P. Government it will be clear that in the season 1946-47 the U.P. Government have been continuously altering their policy in view of the changes in the situation of stock manufactured, export of gur, etc. from time to time. While earlier in the season, export was allowed by a system of permits, the system was altered a little later, gur permits having been temporarily suspended, in view of the discontent it created in the market and the stocks of gur that had piled up. The suspension of these permits and the temporary closure of gur exports brought about a fall in the rates of gur prices. In order to prevent smuggling of gur to certain border stations, the Government decided to ban movement of gur to a few districts, except on permits issued by regional controllers. In February 1947, the U.P. Government also revised the prices of second and third varieties of gur. Later in the season, the U.P. Gur Control Order was amended to provide free movement of gur by river and bullock carts within the province including the border districts to which movement had been banned sometime back. The ban on movement of gur by motor trucks within the U.P. was, however, continued.

Madras and Bombay ban on Gur

The Government of Madras raised the ban on manufacture of jaggery in all the factory areas in the province and they also fixed the price of jaggery with the approval of the Government of India. The Madras Government also permitted export of jaggery to areas outside the province during 1946-47, on obtaining the necessary permits. The Government of Bombay decided to control prices of gur again and introduced a system of licensing both for wholesalers and retailers in the province. The wholesale price was fixed at Rs. 18 per maund for special quality and Rs. 16 per maund for first quality, while the retail prices were fixed at Re. 0-4-6 per lb. for special quality and Re. 0-4-0 for first quality.

Two tables in the " Sugar Industry at a Glance " (*vide* Tables Nos. 36 and 37) show the provincial allocations of gur for supply to deficit areas during the year 1946-47 from the various producing centres and the production of gur in various tracts during 1943-44 to 1945-46. This will provide valuable data for assessing the importance of gur in various areas, and indicate which are the deficit areas.

Sugar Controller's Power to Control Gur

A reference to the text of the Sugar and Sugar Products Control Order, 1947, will show that the Sugar Controller has power to prohibit or restrict export of sugarcane, direct cane-growers to deliver sugarcane to a specified sugar factory or factories, prohibit or restrict manufacture of gur, allot quotas of gur to any province or area, etc. A reference to the above paragraphs will also indicate clearly, however, that the gur control policy has been constantly in a state of flux, that the Provincial Governments and Central Government have not yet been able to arrive at a definite and well co-ordinated policy for the various provinces and that there is considerable dissatisfaction in regard to the policy followed from time to time for regulating movements of gur. The price of gur has also not been controlled with any success, and there have been great variations in the prices from time to time, stocks have sometimes mounted up to the detriment of cultivators or the merchants, and there has been confusion in regard to the gur policy followed by the various governments.

Clear Policy in relation to Gur Essential

We would suggest that as a result of the experience gained during the last few seasons, the Provincial Governments should take counsel with one another and should evolve a suitable policy which would lead to an orderly distribution of gur at controlled rates throughout the country in a manner in which gur of suitable quality would be available for consumption by the people at almost uniform rates. Generally speaking, the price of gur has been varying widely from province to province, from month to month and from season to season. These prices have also been high compared to the controlled prices of sugar, and in spite of this it is a matter of regret to say that gur has not been available freely in various provinces. In spite of official efforts it has not been possible to discourage production of gur, largely because it

is a cottage industry in which the interests of the cultivators and the small manufacturers are closely interwoven and Government found it very difficult to enforce a suitable policy in the various provinces. It is, however, essential that a positive policy should both be evolved and adopted in regard to the manufacture, distribution and prices of gur, with a view to ensuring (1) a steady supply of gur at controlled rates to the people, and (2) that manufacture of gur in areas in the vicinity of factories or towards the beginning of the season does not result in shrinkage in supplies of cane to the sugar factories, and consequently no reduction of production of sugar takes place in the country.

Table No. 27 in the portion of this *Annual* entitled "Sugar Industry at a Glance" shows the total net calculated production of gur in India for several years. It would be of interest to note that the total production of gur in 1945-46 was 35,78,000 tons, about 3½ times the production of sugar. Thus, it will be seen that the gur industry is of no mean size.

Palm Gur

Development of Palm Gur Industry—Early Investigation Essential

There are indications of development of the Palm Gur industry in the years to come. The Government of Bombay have recently approved a scheme for developing the palm gur industry recommended by the Village Industries Committee. Under this scheme, 40 families of agriculturists are to be trained in the manufacture of gur for home consumption, as a subsidiary occupation. Besides, five model centres —three for date-palm gur making, one each in Gujerat, Maharashtra and Karnatak—and one in Sagopalm trial centre to train tappers in the manufacture of gur as a whole-time occupation, are to be opened. The Government of Bombay have also approved the proposal to continue two of the five centres.

Palm gur is also being manufactured in Bengal, Bihar and Madras.

We suggest with all the emphasis at our command that in the present context of food shortage in the country, it would be very helpful if the manufacture of gur from palm would be encouraged. Palm and date trees grow in abundance in various parts of India. It is estimated that there are about 4 crores of palms alone. If they are utilised for the manufacture of gur, they would not only add to the national wealth but would be of great value to agriculture. If the required number of palms are planted, it does not seem improbable that within the next 4 or 5 decades a bulk of the 4,00,000 acres of good agricultural land which is under cane at present would be relieved. And if this comes off, and if the possibility materialises even to a small extent, it would be possible to release such land for producing cereals and other food crops of which there is a very serious deficiency in the country. We would therefore suggest that a proper investigation should be made in regard to the possibility of replacing the cane gur and sugar by palm gur and sugar to such an extent as is possible, in the larger economic interests of the country. The Indian Central Sugarcane Committee has a large grant now available to it for purposes of research, and an inves-

tigation of the possibility of developing the palm gur industry on a wide scale should be undertaken at the earliest possible date.

Let us now turn to the control on khandsari sugar.

Control of Khandsari Sugar in 1946-47

Towards the beginning of 1946, the Government of U.P. imposed control over khandsari sugar with the object of stabilising prices and ensuring a fair distribution. The price of khandsari sugar was fixed at Rs. 18-8-0 per maund, i.e. Rs. 2-4-0 more than factory sugar in 1946. But for various reasons, control was not successful, and khandsari sugar was sold at Rs. 30 per maund and even more. It was, accordingly, decided to abandon it in June 1946. It was hoped that by decontrolling khandsari sugar, the free circulation would have the effect of lowering the prices and guaranteeing supplies to all who are in genuine need. This hope of the U.P. Government, however, was not justified and in view of the high prices which were prevailing in spite of the export ban and the scarcity that was still felt in many places, the U.P. Government decided to reimpose the price and movement control over khandsari in November 1946. Under the new control scheme, the Government endeavoured to avoid the defects which were noticed in the old system and concentrated on the following aspects: (1) a system of licensing ensuring strict control over production, (2) monopoly method of procurement and despatch to deficit areas, and (3) licensing of dealers and very strict supervision over distribution and sales within the districts.

In order to ensure success of the scheme, the Government of U.P. appointed a Provincial Khandsari Controller with a special staff. Quotas of khandsari sugar were allotted to every district in the province and it was hoped that substantial quantities of khandsari sugar would be available for Halwais, rural retailers and others to supplement the crystal sugar supplies. Statutory prices were also fixed for khandsari sugar at Rs. 24, Rs. 25 and Rs. 26 for grades 3, 2 and 1 respectively. In March 1947, the Government of U.P. received several complaints from Halwais that khandsari sugar was not available to them due to some defect in the method of distribution. The Government, therefore, took steps to rectify the same, but they pointed out that it was not possible to allocate any substantial portion of crystal sugar for the use of Halwais. The Government also pointed out that the crystal sugar quota of the province was considerably curtailed on account of the expected shortage of production. Towards the end of March 1947 there were rumours in Bareilly district that khandsari sugar was being de-controlled. The Government of U.P., therefore, issued a Press Note stating that they had no intention of relaxing in any way the present control over khandsari.

U.P. Khandsari Acts of 1947

Under the U.P. Khandsari Sugar Grading and Prices Control Order, which came into effect from the 15th February 1947, the price of superior quality khandsari sugar has been fixed at Rs. 26 per maund.

**vide* "Problems of Sugar Industry in India", by M. P. Gandhi with a foreword by Sir Purshotamdas Thakurdas - Appendix 3, pp. 425, Price Rs. 12. (Published in 1945)

The two Orders which govern khandsari sugar in the U.P. at present are (1) the U.P. Khandsari Sugar and Khandsari Sugar Products Control Order, 1947, which came into effect from 15th May 1947, and (2) the U.P. Khandsari Sugar Grading and Prices Control Order, 1947, which came into effect from 15th February 1947. The present prices of khandsari sugar are fixed under that Order, the maximum price being Rs. 26 per maund for K-9 or superior grade of khandsari sugar, and Rs. 24 per maund for K-6 grade, and Rs. 26 per maund for K-3 grade. These Orders have been published in the U.P. *Gazette* of the 15th May 1947, and are also reproduced in the *Indian Sugar*, Cawnpore, of May 1947, on pages 103 and 104.

Strict Control on Khandsari recommended

Due to the higher prices fixed for khandsari sugar in relation to the price of factory sugar, there is a tendency for increased production of khandsari sugar which, undoubtedly, is a less economic method of producing sugar as compared with the factories, due to the smaller recovery percentage of sugar, the recovery being only 5½% as compared with 10% in factories. Apart from this, in the absence of proper control on the prices of khandsari sugar, and the prevailing shortage of sugar, khandsari sugar sells at exhorbitant rates and this in turn provides an incentive for manufacture of increasing quantities of khandsari sugar in various areas in the U.P. This matter is not outside the knowledge of the Government of U.P., but they are unable to enforce control efficiently due to the fact that a large number of agriculturists scattered over the various districts are involved and it is also felt by the U.P. Government that in some sense khandsari manufacturers deserve some amount of help as it is a cottage industry. We cannot conceal the feeling, however, that proper control should be instituted on khandsari sugar out of regard for the necessity of having increased production of white sugar in the country by sugar factories from cane supplies available to them, in a more economic manner. The low recovery of khandsari is doubtless a national loss and wastage of sugar to the extent of the lower recovery as compared with the recovery from factories.

In this connection, we reproduce below a paragraph from the Report of the Panel on Sugar, Alcohol and Food Yeast Industries appointed by the Government of India, Planning and Development Department, published in 1947.

"Accurate statistics regarding the production of khandsari sugar are not available, but its average annual production during the recent years may be fairly assumed to be 75,000 tons. Khandsari is a wasteful process of producing sugar and the quality of the product is generally inferior. It is a relic of the past. Until lately there was a special demand for it among certain orthodox classes and in backward areas, but that has now almost entirely disappeared. There can be no place for it in any system of planned production. Special consideration was given in the past to khandsari on the ground of its being a useful cottage industry. It is not a strong argument, however, as every grower has the easy alternative of converting his sugarcane into gur. It is not desirable, therefore, to adopt any special measures to keep it alive.

The excise duty on khandsari is at present 8 annas per cwt. as against Rs. 3 per cwt. on sugar produced by vacuum pan factories. It would be desirable to increase it to the latter level as soon as vacuum pan factories are in a position to meet the demand of the country. The production will, however, even under the present conditions (provided price control is effective) continue to decrease and will by 1950, we believe, not exceed, say, 50,000 tons." (Para 12).

It will be seen that the report fully supports our view in regard to the uneconomic and inefficient character of khandsari production.

Production of Sugar by Khandsari and from Gur

Having referred to the question of control on khandsari, on gur, as also on sugar, we will now pass on to the question of the manufacture of khandsari sugar, and sugar from gur.

Refined sugar is manufactured by three different processes in India, namely, (1) direct from cane from modern vacuum pan factories, (2) from cane by indigenous open pan factories, i.e. khandsari (through the intermediate process of Rab), and (3) from gur refined in modern refineries.

Khandsari Sugar

A detailed reference has already been made to the production of sugar by the first method, i.e. direct from cane in modern vacuum pan factories. In regard to sugar production by khandsari, no reliable and definite statistics are available but an estimate can roughly be made on reports. The operation of khandsari is particularly noticeable in the United Provinces where 66 per cent of the total khandsari sugar production in India is being produced. It is estimated by the authors of "Report on the Marketing of Sugar in India and Burma" that *khand* forms nearly 13 per cent of the total white sugar made in India. About 85 per cent of the quantity of *khand* is directly prepared from cane or juice and the rest by re-melting gur. Like gur sugar, its production also depends upon the relative prices of cane, gur and sugar in any year.

The quantity of khandsari sugar manufactured from cane has varied considerably in recent years. While in 1938-39 it was 1,00,000 tons, in 1940-41 it was 2,00,000 tons, in 1942-43 it was 2,14,000 tons and in 1945-46 it was 1,17,000 tons, in 1946-47 it is estimated at 1,00,000 tons. It should be observed, however, that the estimates of manufacture of khandsari sugar are merely conjectural. There is considerable difference in regard to the correct estimates of production of khandsari sugar. The Sugar Controller is of the opinion that the estimate of khandsari production of the Director, Imperial Institute of Sugar Technology, Cawnpore, as given in Table No. 1, from 1943-44 onwards, are over-estimates. His own opinion is that the production of khandsari sugar has not exceeded 1,00,000 tons in any of the years from 1943-44 to 1946-47, and that the production for 1946-47 is only about 75,000 tons. It will be of interest to note that out of the total production of 1,17,000 tons of khandsari sugar in 1945-46 in India, 78,000 tons was produced in U.P., 7,200 tons in Bihar, and 31,800 tons in the rest of India. In 1946-47, the production of khandsari sugar was estimated

at 1,10,000 tons (the figure of 1,00,000 tons mentioned in Table No. 1 against 1946-47 for production of khandsari sugar is a mistake). Of these, 69,000 tons is estimated by the Provincial Khandsari Controller of U.P. as produced in U.P., 7,300 tons in Bihar, and 33,700 tons in the rest of India. These were the estimates furnished by the Director, Imperial Institute of Sugar Technology, which appear to be over-estimates to the Sugar Controller of the Government of India, as stated above.

In this connection it is necesary to observe that although the estimated production of khandsari sugar is so large, the increase in the amount of excise duty collected is very low, and this points to a very small production. The reason for the collection of such a small amount of excise duty, however, is found in the fact that many khandsaris are small units which can easily escape paying excise duty. The total amount of excise duty collected from production of khandsari sugar in 1934-35 and subsequent years is as follows:—

Year	Amount Rs.	Year	Amount Rs.	Year	Amount Rs.
1934-35	... 77,000	1939-40	... 1,46,000	1944-45	... 9,90,000
1935-36	... 60,000	1940-41	... 2,86,000	1945-46	... 2,27,000
1936-37	... 47,000	1941-42	... 4,43,000	1946-47	... 2,39,000
1937-38	... 51,000	1942-43	... 1,57,000		
1938-39	... 59,000	1943-44	... 5,09,000		

The present rate of excise duty on khandsari sugar is eight annas per cwt. only.

Khandsari Production in Factories liable to Excise Duty

Although production of khandsari sugar is estimated at about 1,00,000 tons every year, the total quantity of khandsari sugar manufactured in British India in factories *using power and paying excise duty at the rate of* 8 *annas per cwt. is very small indeed.* The following figures received from the Central Board of Revenue, New Delhi, showing the production of khandsari sugar manufactured in British India in factories *using power*, from 1941-42 to 1945-46, will be of interest.

Year	*Khandsari Production in tons in Factories using power*
1941-42	 27,900
1942-43	 15,950
1943-44	 21,400
1944-45	 25,750
1945-46	 17,000

Definition of Khandsari Sugar

Under the Sugar Excise Duty Act, 1934, excise duty is levied on khandsari sugar (i.e. sugar in the manufacture of which neither vacuum pan nor vacuum evaporator is employed) under Section 3(1) of the Act. For the purpose of the Act 'sugar' means any form of sugar

containing more than ninety per cent of sucrose, and in order that sugar may be taxable, it must be produced in a factory which means any premises in any part of which any manufacturing process connected with the production of sugar is being carried on or is ordinarily carried on with the aid of power. The sugar produced by the purely agricultural section of the Open Pan Sugar Industry where work is done without the aid of power is not liable to excise duty. Similarly, products like gur and Rab which do not contain 90 per cent of sucrose are not liable to excise duty. It is well-known that several small-sized vacuum pan concerns manufacturing khandsari sugar had in order to avoid the excise duty, so adjusted their business that they would not come within the provision of the definition of a 'factory'. With effect from 28th February 1939, however, under the amended definition of 'factory' they were also liable to excise duty at the rate of Re. 0-8-0 per cwt.

Khandsari production is still being continued because the khandsaris enjoy definite advantages in spite of the uneconomic method of production of sugar. The khandsaris do not pay (*a*) cess on cane which the factories will have to pay, (*b*) incur no expenses by way of commission to co-operative societies, (*c*) spend nothing in railway freight or other transport costs for supplies of sugarcane, and (*d*) possibly escape on occasions even the payment of excise duty of Re. 0-8-0 per cwt. All these factors are responsible for the continued existence of khandsari production of sugar. The total cost of manufacture of khandsari sugar may be taken at Re. 1 to Re. 1-4-0 per maund. The Report on the Marketing of Sugar estimates the approximate cost of a typical khandsari concern in Rohilkhand (U.P.) at Re. 1-1-8 per maund for *khand* received and *rab* treated at Re. 0-3-7 per maund.

Khandsari industry appears to be at an advantage in the interior areas, far removed from factories where cane is available cheaply and which cannot be disposed of in any other profitable way. The khandsari sugar factories can be helped by the Government by improvement of the equipment and introduction of improved types of crushers, juice-boiling bells, etc.; by improvement of the methods of manufacture in order to improve the quality of the finished product; and by better facilities for getting the necessary equipment on hire and by better marketing facilities. The Imperial Council of Agricultural Research sanctioned a grant of Rs. 1,67,380 for the establishment of a Sugar Research Testing Station for the indigenous system of gur and sugar manufacture for a period of 5 years ending in November 1941. A small grant was also made to the Government of Bihar for investigation into the possibilities of manufacturing khandsari sugar by single pan method. But so far no material results of these schemes have been placed before the public. The newly constituted Central Sugarcane Committee has also been taking some interest and exploring the avenues of adopting better methods and getting improved qualities of sugar by the khandsaris. In 1945-46 and 1947, khandsari sugar production received an impetus as it was possible to sell khandsari sugar at rates far higher than the controlled rates and it became very profitable.

Sugar refined from Gur

The third method of producing sugar is by refining from gur. The production of sugar refined from gur in modern refineries is naturally dependent on the relative cheapness of gur and the disparity in prices between gur and sugar. In the years when there will be keen competition from sugar mills due to plentiful supplies of cane and increased output, production of refined sugar will be rather small. When there is a wide disparity between the prices of sugar and of gur so as to enable sugar production more profitable, the refineries will produce more sugar and enjoy prosperous conditions. Thus, production of sugar by refineries varies very much from year to year and is governed by unpredictable factors.

Production of sugar by refining gur, in India, in 1944 was 7,890 tons as against 6,370 and 13,400 in 1943 and 1942 respectively. Only four factories produced sugar by refining gur in 1944 as against five in the previous year. The total production, however, showed some increase, being 7,890 tons against 6,370 tons in 1943. The average recovery of sugar per cent of gur was 59.4 against 64.5 in the previous year. Of the four factories that worked during the year, two were from Madras, one from the U.P. and one from the Indian States. Gur refining is now a declining industry. But for a slight increase, in 1944, as compared with 1943, the production of sugar refined from gur has been rapidly falling since 1941.

On the basis of returns received from factories under the Sugar Protection Rules, 1935, the Director, Imperial Institute of Sugar Technology, Cawnpore, reports that the production of sugar refined from gur in India in 1946 was the lowest on record during the last 10 years, being only 3,754 tons, as against 6,030 tons in 1945, and 4,850 tons in 1946. The main reason for this steep fall in production was the high prices of gur that prevailed during these years. The number of refineries operating in 1946 was 3 as in the year 1945.

The total production of sugar and molasses by refineries in India for 1944 were as follows: Sugar manufactured was 7,980; gur melted was 13,440 tons; molasses obtained was 3,850 tons; recovery of sugar 59.38 and recovery of molasses 28.65. The comparative figures for the previous season of 1943 were sugar manufactured 6,370 tons, gur melted 9,860 tons, molasses obtained 2,680 tons; recovery of sugar 64.60 percentage and of molasses 27.18.

Decrease in Supply of Sugar to the Civil Population expected in 1947-48

During the year 1946, the Sugar Controller had reduced the allotment of sugar to various provinces in India. The quota for Bombay was reduced by 13 per cent from the 31st March 1946, and similar reduction had also to be made in other provinces. The provisional quota for 1946-47 was fixed at 9,04,000 tons. In view, however, of the fact that the *total* production of sugar in 1946-47 (including khandsari), has fallen to 10,42,000 tons as compared with 10,65,800 tons in 1945-46, it would not be surprising if the Sugar Controller would have to curtail the quota for civilian consumption to some extent during the year 1947-48.

It is true that India will receive a quantity of about 30,000 tons of sugar at controlled prices from the allotment made by the International Emergency Food Council, but this quantity will be utilised for filling the gap between production and the quotas allotted during 1946-47. As a matter of fact, a much larger quantity of sugar could be absorbed and would be welcome from foreign countries, but it must be remembered that if India is to buy any quantity of sugar from foreign countries at the present time, it would be at rates two or three times the present rates of sugar in India, and to our mind it would clearly be a waste of national money, particularly when there is a food crisis, to import sugar at such exhorbitantly high rates. We, therefore, commend the action of the Government of India in foregoing the allotment made to it by the International Emergency Food Council of a further quantity of 70,000 tons of sugar from the free foreign markets of the world during 1946-47, firstly because the amount of money which would have to be expended on the importation of this sugar could be better utilised for importation of foodstuffs which are vital to the nation, and secondly because the price at which this quantity of 70,000 tons is available is far different and much higher than the price at which the 30,000 tons were made available to India at controlled rates which compare very favourably with the present rates of sugar in India. Besides, as is well known, sugar being controlled in India, it could be sold only at one rate and if, therefore, the Government of India import this extra quantity of sugar at about 3 times the present rate of sugar in India, they would have to subsidise this large quantity of sugar, and this would be a drain on the resources of the country which would be unjustified and unwarranted.

Positive Policy of encouraging Production of Sugar required

In this context we would only add that more sugar should be produced in the country itself for meeting the requirements of the people and if suitable steps are taken in this behalf, it would not be difficult for India to produce 12 to 13 lacs tons of sugar during the 1948-49 season from its borders, leaving the 10 factories of Pakistan out of account. This would mean, however, a rigid and strict control on gur and khandsari, proper co-ordination of transport, fixation of suitable prices of sugarcane and also of sugar, so as to leave a fair margin of profit to the industry which it has been deprived of during the last two seasons as a result of lack of a liberal outlook on the part of the Government in computing the cost of manufacture of sugar in the factories and in allowing a reasonable profit to the factories. We would like to add that it would be futile on the part of the Government to expect a higher production of sugar if factories are working at a loss as a large number did both in U.P. and Bihar during 1945-46 and 1946-47 seasons, and this should be remedied immediately if the objective of increasing production of sugar in the country is to be achieved instantaneously.

Rationing of Sugar in Bombay

In August 1947, the Government of Bombay invited suggestions from the public in regard to improvement in its present scheme of sugar

distribution. It was pointed out that from December 1st, 1946, the sugar quota of the province of Bombay was fixed at 1,26,500 tons. Out of this, 1,09,900 tons were being utilised for domestic consumption and the balance, namely, 16,600 tons for establishments. The pre-war consumption of sugar in the province of Bombay was 26.6 lbs. per head per year. The present allotment for domestic consumption is 13.2 oz. and for establishments, 2 oz. per head. The Government of India have fixed sugar quotas of each province and State on the basis of its pre-war consumption of sugar, which varied from 34 lbs. per head per year in Delhi and 1.1 lb. in Orissa. The all-India average of sugar consumption during the pre-war period was 6.6 lbs. per head per year. The *per capita* consumption of sugar is higher in urban areas and varies proportionately to the size of the towns. The pre-war *per capita* consumption of Bombay City was 65 lbs. per year. The precautionary methods adopted by the Government of India in making area-wise allotment of sugar, has also been followed by fixing of quotas for different areas in the province.

The quantum of sugar in Bombay City at present is 9 oz. per head per week. 35,300 tons were thus allotted for domestic consumption and 9,500 tons for establishments. The total quantity allotted works out to 31.6 lbs. per head as against 65 lbs. which was the pre-war consumption of Bombay City. Other urban areas in the province of Bombay are given 37,600 tons for domestic consumption and 5,300 tons for establishments. The quantum in towns with a population of over 1,00,000 is 7 oz. per week, between 50,000 and 1,00,000, 6 oz. per week, between 25,000 and 50,000, 5 oz. per week, and below 25,000, 4 oz. per week. Rural areas of the province got 38,800 tons of sugar, at the rate of 2 oz. per head per week in the Gujerat districts and 1.5 oz. in other districts. The quantum for rural areas is doubtless inadequate, but unless the supply to the province is increased, the Government find it very difficult to decide as to how to distribute sugar in those areas. The difficulty is enhanced by the fact that even gur, which is consumed in larger quantities in rural areas, is not available in the required quantity.

Ration of Sugar in Bengal, Madras, U.P., etc.

The ration of sugar in Bengal was also reduced during the year 1946-47. Thus, for instance, Calcutta received 6 oz. of sugar per head per week, as against 8 oz. before, while in Madras City the ration has been fixed in a manner in which the quantity of sugar available per person varies with the income of the individual. It is understood that the Government of Madras are revising the district sugar quotas to correspond more closely to the population of each district. In the U.P. a uniform system of distribution has been adopted with effect from 1946-47 whereby the population of regulated towns and certain other large urban areas in the plains will receive a standard ration of one seer per head per month in the case of those with an income of Rs. 100 or over, and 8 oz. per head per month in the case of those with an income of less than Rs. 100, children being counted as adults. The allotment for the rural population of the province has been made at the rate of 1 seer per head per annum. This is a very inadequate quantity, but it is possible to get in rural areas some quantity of khandsari sugar and gur.

Cube Sugar available as Extra in Some Places

The Government of Bengal have excluded cube sugar from the category of rationed article of sugar and free sale of cube sugar is permitted. This is also permitted in Madras, Bombay and other urban centres like Delhi.

Consumption of Sugar and Gur in India

The present annual consumption of sugar is roughly estimated to be about 10 lakhs tons per year (our *per capita* consumption of sugar and gur is small as compared with other countries of the world in normal times as a glance at the Tables No. 4 and No. 5 in the *Sugar Industry at a Glance* will show). During the last three or four years due to the compulsory cut under rationing, the *per capita* consumption of sugar in India has even come down further. Consumption of sugar in India, however, is not steady and varies from year to year with the rise and fall of the price of sugar, and with changes in economic conditions, etc. But we will not be far wrong if we estimate the annual consumption of sugar in India at $10\frac{3}{4}$ lakhs tons in 1938-39, $10\frac{1}{4}$ lakhs tons in 1939-40, 10 lakhs tons in 1940-41, 11 lakhs tons in 1941-42, 10 lakhs tons in 1942-43, 10 lakhs tons in 1943-44, and $9\frac{1}{2}$ lakhs tons in 1944-45, and only 9 lakhs tons in 1945-46 and in 1946-47. The labourers employed in war-time industries in urban towns, the soldiers who served in the war, and inflationary conditions have resulted in the creation of a new class of consumers of sugar—a class which had never taken to consumption of sugar before. Consequently demand from civilian sources for consumption has also increased in quantity. Increase in the habit of consuming sugar is helpful to the industry for the future. It can definitely be expected that the internal consumption of sugar would be higher due to the higher standard of living following from the huge plans for the economic development of the country. And any National Plan which contemplates the provision of basic amenities like good food, etc, if implemented, will necessarily give an impetus for consumption of sugar as an essential article of food by millions in this country. Therefore in the years to come, there are large prospects for increased consumption of sugar in the country itself. Even an output of 15 lakhs tons can now easily be consumed at the present scale of demand for sugar in the country, but, due to rationing, those that can consume more do not get it in sufficient quantities and villages and areas in the interior are indeed greatly starved, and are suffering. The consumption of gur is almost stationary.

We hope the day is not distant when India will not only produce more sugar but eat more sugar, like other advanced countries, and thus appreciate fully the advantages of a home industry.

The *per capita* consumption of sugar and gur and expenditure thereon can be seen from Table No. 4, and its footnote.

Imports of Sugar and Negligible Revenue from Import Duty

As a result of the development of the sugar industry in India, imports of sugar have been absolutely negligible since the last six years. The quantity of sugar imported in 1942-43 was 23,000 tons, while the quantity imported in 1943-44 was 8 tons, in 1944-45 it was 14 tons, and in 1945-46, 30 tons. In the year 1947-48, the import will be of the

order of 30,000 tons from Cuba due to the allocation made by the International Emergency Food Council, for meeting the shortage of sugar in India.

The revenue from the import duty on sugar has been negligible. We might hope that there will be practically no import of sugar in the future, India having been completely self-sufficient in this respect.

India exports Small Quantity of Sugar

In spite of the fact that sugar is rationed in the country and there is great scarcity in supplies of sugar for meeting the internal demand, India has been exporting a small quantity of sugar to foreign countries for diplomatic reasons. The export quota for 1940-41 was 13,000 tons, 1941-42, 18,000 tons, for 1942-43, 30,000 tons. The sugar quota allotted for export in 1943-44 was 17,000 tons, in 1944-45, it was 18,000 tons, and in 1945-46, it was 14,000 tons.

A Table in the *Sugar Industry at a Glance* shows the sugar quotas allotted for export during 1943-47 and the various destinations to which they were exported (*vide* Table No. 35).

Export Policy in relation to Sugar in Future

We feel that the Government of India should maintain the present practice of export of small quantities of sugar to these destinations in order to preserve the trade, and as soon as production in the country increases, efforts should be made for supplying larger quantities of sugar to these countries which are starved of their supplies of sugar from their normal suppliers. It would also be a matter of great importance for India to maintain such export markets as safety valves for years of over-production, and for that reason it would be desirable to maintain contact with these markets even though exports at the present time may be on a small scale. It should also be the duty of India to guard itself against a return of the position in the pre-war period when, by an International agreement, it was debarred from exporting sugar on the ground that it was normally not in a position to do so. We suggest that in any plan for regulating production of sugar in the country, provision should be made for an annual export of at least 50,000 tons to neighbouring countries. This export will also enable us to earn some foreign exchange, which is very essential at the present time, for permitting larger quantity of imports of an essential character, like machinery, etc.

Area under Sugarcane in 1946-47

The total area under sugarcane in 1946-47, according to the second Sugarcane forecast crop for 1946-47, published in the *Indian Trade Journal,* dated 3rd April 1947, was 39,06,000 acres as against 39,88,300 acres in 1945-46, or a decrease of 2 per cent.

The details for the Provinces and States for 1945-46 and 1946-47 are as follows:—

SECOND SUGARCANE FORECAST FOR 1946-47*

Provinces and States	1946-47	1945-46	Increase (+) or Decrease (—)
	(In thousand acres)		
U.P. (including Rampur States)	1,924	2,024	— 100
Punjab	594	599	— 5
Bihar	398	384	+ 14
Bengal	300	323	— 233
Bombay (including Indian States)	162	174	— 12
Madras	164	147	+ 17
North-West Frontier Province	101	92	+ 9
Assam	50	50	..
Orissa	30	34	— 4
Central Provinces and Berar	43	39	+ 4
Sind (*including Khairpur State*)	6	6	..
Delhi	2	2	..
Mysore	39	41	— 2
Hyderabad	76	58	+ 18
Bhopal (Central India)	9	8	+ 1
Baroda	5	5	..
Jaora (Central India)	3	2	+ 1
Total	3,906	3,988	— 82

The average percentage of sugarcane area in the various tracts to the total area of sugarcane in India, based on the figures for the 5 years ending 1944-45 is given below:—

	per cent		per cent
U.P.	51.2	Assam	1.1
Punjab	12.5	Orissa	0.8
Bihar	10.0	C.P. & Berar	0.7
Bengal	7.6	Sind	0.2
Bombay	3.9	Delhi	0.1
Madras	3.4	Mysore	1.1
N.-W.F.P.	2.1	Hyderabad	1.1
		Bhopal	0.2
		Baroda	0.1
		Jaora	0.1

In the *Sugar Industry at a Glance* we have given a Table showing the area under sugarcane in the improved varieties and production of cane per acre, gross production of gur, and calculated production of cane-crop from 1930-31 to 1946-47. (*vide* Table No. 9).

Let us now see the conditions of the industry in other areas in 1946-47.

A Note on the Industry in Madras in 1946-47

We give below a comprehensive note on the position of the sugar industry in Madras Province during the 1946-47 season.

*Final Sugarcane Forecast, published in "Indian Trade Journal", of 4th September, 1947 places the cane-acreage at 4,108,000 in 1946-47 as compared with 3,825,000 in 1945-46.

The area planted with sugarcane in the Madras Province in 1946-47 is estimated at 1,79,960 acres. When compared with the corresponding estimate of 1,56,250 acres for the previous year and the actual area 1,60,700 acres, the present estimate reveals an increase of 15.2 per cent and 12 per cent respectively. The increase in acreage is due to the prevalence of high prices for jaggery at the planting time.

The Madras Government withdrew the ban imposed in factory areas last year on the manufacture of jaggery, but fixed the minimum prices for sugarcane at which factories should purchase cane, and maximum selling prices for cane jaggery in all districts. The minimum prices of cane fixed for the factories varied from Rs. 26 per ton to Rs. 34 per ton delivered at the factory. The wholesale price for cane jaggery in various districts varied from Rs. 13-8-0 to Rs. 16 per maund for the first quality and Rs. 12 per maund to Rs. 14-8-0 per maund for the second quality. The retail price for cane jaggery varied from Re. 0-8-11 to Re. 0-10-11 per maund in various areas of the province.

With a view to enforcing proper sales at the controlled prices, the Madras Government have also notified orders requiring holders of stocks of jaggery to maintain and produce for inspection accounts and records relating to their business and also declaring refusal to sell stocks of jaggery to persons willing to pay the controlled prices an offence punishable under the Control Order.

The first forecast of production was that 61,500 tons of sugar would be produced but when the factories started crushing it was noticed that the quality of cane had undergone considerable deterioration on account of the late and heavy monsoon. This is believed to have affected the percentage of recovery. Production is now estimated at 52,000 tons.

The minimum prices for cane detailed above were fixed on the basis of average recovery during the last 3 seasons. The effect of the low recovery obtained this year has, therefore, been that the cost of raw material per ton of sugar has considerably increased. It is therefore possible that factories are operating at a loss.

Sugar distribution from factories to consuming districts continued on the basis of the zonal scheme of distribution issued by the Commissioner of Civil Supplies. Internal distribution was supervised by the Collectors.

A Note on the Industry in Mysore in 1946-47

The following paragraphs give a brief note regarding the working of the sugar industry in Mysore in 1946-47.

The year 1946-47 was another year of under-production of sugar in Mysore. The Mandya Factory, which is the only factory producing sugar in the State, started its season early in September 1946 and carried on crushing operations till the beginning of April 1947, the actual number of working days being only 191. The quantity of cane crushed during this period of 1,57,787 tons and that of sugar produced 16,058 tons, the corresponding figures for the previous year being 1,61,312 tons and 17,505 tons respectively. The recovery also registered a fall from

10.87 for 1945-46 to 10.17 for the year under review. The main reason for the drop in production was the insufficiency of cane due to adverse seasonal conditions in the preceding year and the difficulty of obtaining timely and adequate supplies of groundnut oil cake.

Consequent on the increase in sugar price with effect from 25th October 1946, the Government of Mysore raised the price of sugarcane from Rs. 24 to Rs. 32 per ton for the season 1946-47. The chief variety of cane grown for supply to the factory is Co.419 and the yield has suffered a slight setback consequent on poor manuring.

During the year under review, a quantity of 6,600 tons of molasses was produced and made over to the Distillery for the manufacture of potable and industrial spirits and power alcohol. As a result of the steady increase in the demand for power alcohol and the inability to meet the full demand due to shortage of molasses, the working of the Power Alcohol Act had to be amended by reducing the percentage of alcohol in the petrol-alcohol mixture from 15 to 5.

A Note on the Industry in the Bombay-Deccan in 1946-47

The following paragraphs contain a description of the working of sugar industry in the Bombay-Deccan during the 1945-46 and 1946-47 seasons.

The 1945-46 sugar crushing season in the Bombay-Deccan was not as good as 1944-45, in spite of the fact that the war was over. The 1946-47 season further affected by the serious flood situation prevailing in the country and the areas under sugarcane, had to be reduced by the sugar factories under instructions of the Bomaby Government in order to grow food crops. As a result there was a considerable reduction in the production of sugar.

The total production of sugar in the Bombay-Deccan (9 factories in India and 4 in the Indian States) in 1945-46, was 91,648 tons, and in 1946-47, it was 80,899 tons, whereas 11 member factories had produced 1,00,000 tons of sugar in 1940-41.

The sugar industry in the Bombay-Deccan has undoubted scope for expansion and for establishing itself firmly, but it has all the while to depend on the Bombay Government for the supply of irrigation water. That being the case, whenever there is demand for food crops as at present, the sugar factories have to make a sacrifice by diverting their acreage from cane to foodcrops in order to grow more food to meet the serious food situation. The only way out of this situation is the expansion of irrigation facilities and this is possible if the Government of Bombay undertake the necessary measures therefor.

Bombay Sugar and Power Alcohol Sub-Committee's Report, 1946

In this connection it will be of interest to see the recommendations made in the Report of the Sugar Power Alcohol Sub-Committee appointed by the Food and Forest Industries Sub-Committee of the Government of Bombay, under the chairmanship of Mr. B. S. Dabke. The report of this sub-committee was submitted in August 1946. It recommends that the existing low crushing capacity of factories on the Nira

Canals and Godavari Canals should be encouraged to expand to their maximum capacity of 800 tons, during the next 10 years. The report has also recommended to the Government to take up immediately the question of irrigation schemes and also to help factories in acquiring lands near the sugar factories. It also recommends the establishment of a new central distillery for utilising molasses and turn it into fermental by-products, e.g. industrial alcohol. It has also recommended that a distillery should be situated at a central place like Poona from which no sugar factory is beyond 150 miles.

The report also recommends that with the adoption of the prohibition policy by the Government of Bombay, they should insist on the owners of palms, dates and tads that the juice of these palms should be converted into jaggery or other gur products instead of being used as tapping for intoxicants. The report states also that the climatic conditions in Bombay resemble closely the tropical countries like Java, Cuba, etc. and that owing to the very heavy manuring required for the land and excessive water charges of Rs. 80 per acre, the cost of sugarcane in Bombay is slightly higher. As against that, the cane yield in the province is easily higher than that of the U.P. and Bihar.

The report estimates the total sugar production in Bombay Province at about 1,00,000 tons, while the consumption is about 2,40,000 tons on the basis of a population of about 3 crores, including the States, and the *per capita* consumption of 18 lbs.

The report states that according to the post-war irrigation scheme of the P.W.D. of the Government of Bombay, about 8,000 acres of agricultural land will be brought under irrigation where sugarcane can be grown in the next 10 years. It states, therefore, that it will be possible to establish two new factories each having a crushing capacity of about 400 tons. The report also quotes the observation by the P.W.D. that "being pressed by the Government of India for an increased supply of cane for the manufacture of white sugar, the Government of Bombay have agreed to the establishment of 3 factories on lift irrigation to be supplemented when necessary by canal water during the hot weather, but these factories are yet to come into existence."

The report also recommends the establishment of a Food Yeast Factory in the province, and suggests to Government to take up its entire production of yeast for the first 3 years at a fixed price.

Effect of Grow-More-Food Campaign on Industry in Bombay

In this connection it may be recalled that the Bombay Government, with a view to further the "Grow More Food" campaign, passed in the middle of 1944, the Bombay Growth of Food Crops Act, thereby compelling the sugar factories of the Province to devote half of the land for cultivation of food crops like cereals for 1944-45 and subsequent seasons. The enforcement of the Act entailed considerable difficulties as the sugar mills were obliged to put 50 per cent of their reserved cultivable area to produce food crops.

In Bombay, one distinguishing feature of the sugar industry is that mills themselves own large plots of land in the areas nearby and raise

the major portion of their cane requirements for making sugar. In the U.P., Bihar and other areas, the mills on the contrary, depend for the supply of cane on individual cultivators and small peasants who cultivate the sugarcane crop in their fields. Thus the Bombay sugar factories possess a definite advantage of having all their cane supplies under their own control. The benefits of large-scale cultivation and the use of machinery and tractors for tilling the soil can, thus, be enjoyed by the sugar mills who own large plots. But the enforcement of the Bombay Growth of Food Crops Act for the sugar mills will adversely affect the sugar industry in the Province as the mills will have short supply of cane if 50 per cent of their sugarcane acreage is turned to the cultivation of food crops. This results in a decreased output of sugar in Bombay. But in the present context of grave food shortage in the country, this appears to be inevitable, and the industry must get reconciled to it, as long as the emergency lasts.

Confectionery Manufacture in Bombay

In any cursory survey of the progress of the sugar industry in Bombay-Deccan, special mention must be made of the recent experiments that are being made for the manufacture of sugar-candy in India. A sugar-candy research scheme, financed by the Imperial Council of Agricultural Research is in progress at Ravalgaon (Nasik District) for the last 3½ years. Outstanding improvements such as the use of steam and modern machinery have been introduced in the process of the manufacture of sugar-candy. The plant at Ravalgaon is the first of its kind in India and in quality some of the varieties of candy produced equal the imported sugar-candy. Arrangements are also being made to train chemists and *Karigars* intending to be employed in this industry.

There are very few mills in India capable and equipped with the necessary plant for the production of sugar-candy which is very much in demand in this country and is largely imported from abroad. The Ravalgaon Sugar Farm has made efforts to produce good variety and types of sugar-candy crystal. We suggest that sugar mills in other provinces should also explore avenues for producing sugar-candy in the years to come.

A Note on the Sugar Production in Bengal, Punjab and Other Areas in 1946-47

Production of sugar in Bengal for 1946-47 amounted to 20,184 tons as against 22,600 tons in 1945-46, while the yearly consumption is as high as 1½ lakhs tons for Bengal and the neighbouring States. The number of factories that crushed cane were 5 against 6 in 1945-46 and even those under work did not obtain a satisfactory crush for lack of cane supplies.

In spite of a special increase permitted to Bengal factories in the price of sugarcane, viz. : Re. 1-6-0 per maund in 1946-47, the production fell, owing to the inadequacy of cane supplies during the year. The bulk of the cane in factory areas was diverted for gur manufacture. As there are practically no roads in the sugar mill areas, transport of

sugarcane from field to factory constitutes a serious problem. Cane supplies are consequently largely curtailed, the quantity available gets stale and is deteriorated due to detention on road and rail, substantially reducing thereby the sugar recovery.

In the Punjab, N.-W.F.P., Orissa and Indian States, production of sugar during 1946-47 was almost as much as in 1945-46. Production of sugar in Indian States amounted to 99,186 tons in 1946-47 compared with 95,600 tons in 1945-46. The Punjab produced 14,391 tons in 1946-47 as compared with 10,400 tons in 1945-46. This was partly due to the higher prices of sugar given to the Punjab.

Importance of Sugar Industry in the National Economy

We have already referred to the various problems of the sugar industry during 1945-46 and 1946-47. We have also seen that the prospects of increasing production of sugar in 1947-48 are none too bright as compared with the previous two seasons, and we have also referred to the reasons which stand in the way of increasing production of sugar, namely, fixation of the price of sugarcane in parity with the prices of other cereals at a slightly lower level, absence of adequate transport, lack of a forceful policy in regard to gur and khandsari in the U.P. and Bihar, etc. It would be interesting to note, however, that there is a potential capacity at present in the country for producing about 15,00,000 tons of sugar if there is the will and determination and a suitable policy in this behalf. The sugar industry is one of our most important industries. Indeed, it is at present the second biggest industry in India, next only to the cotton textile industry, and is owned, controlled and managed almost completely by the nationals of the country. The prosperity of nearly 20 million agriculturists is linked up with the welfare and development of the sugar industry inasmuch as the sugarcane cultivators in India are mostly small-holding peasants with meagre incomes. The industry is spread in rural areas in the country, is seasonal in character and finds employment for a large number of workers in surroundings far more congenial than in the case of other factories in cities, and taking into consideration these factors and also the development of the industry which has prevented the annual drain of about 16 crores of rupees paid to foreign countries before the establishment of this industry in the country, which could be said to have commenced in 1932, it is easy to see the importance of the sugar industry in the national economy of India. The need for its orderly development and progressive growth for the welfare of India cannot be overstressed. The rapid growth of the industry in a comparatively short period to its present position of eminence, the possibility of production of sugar from the existing factories in quantities larger than the present estimated consumption, and the invaluable contribution the sugar industry has made during the most trying period of the war, are the highlights of the history of the development of the sugar industry in India. It cannot be gainsaid that the development of this industry has been truly romantic and well timed because, had it not been for the existence of this industry in its present size and form before the war, we would have had to suffer severe privation of sugar for several years. Such an industry, therefore, is essential, nay, vital and indispensable, and it would be the duty of everyone having the welfare of

the country at heart to create conditions for the expansion and progress of the industry, so that in course of time, far from eliminating the possibility of imports of sugar at any period in future, it may indeed be enabled to seek outlets for export of sugar to adjacent countries which are starved of supplies of sugar at the present time.

With a national government at the helm of affairs and after the achievement of independence from August 15, 1947, one can look with hope and optimism, for a bright future for this vital industry. It is an industry having unique connection with agriculture and indeed it is an integral part of our agricultural economy. It is, therefore, only proper that in appreciation of this unique feature of the industry the Tariff Board has decided to recommend continuance of the present protection to the industry, although in the case of three other important industries inquired into by the Board at the same time, viz.: Cotton Textile, Steel and Paper, the Tariff Board decided not to recommend continuance of protective duties any longer.

We would now refer in detail to the Tariff Board's inquiry into the industry which was instituted in January 1947, and review its recommendations.

Tariff Board Enquiry, 1947

The Tariff Board, for the purposes of this inquiry, consisted of Mr. (then Sir) R. K. Shanmukham Chetty, President, Mr. C. C. Desai and Dr. H. L. Dey, Members. We might add that Mr. M. P. Gandhi, Editor of this *Annual*, had the honour of being appointed as Technical Adviser to the Tariff Board in 1947, for this inquiry.

Protection of the Industry since 1932—*Tariff Board Enquiry*

As is well known, the sugar industry has been a protected industry since 1932, when the Sugar Industry (Protection) Act was passed. Since then there was one more Tariff Board enquiry in the case of this industry in 1937, and the protective duties enjoyed by this industry since 1939, were continued from year to year by continuation acts in war time, the last extension being accorded to it by the Legislature in April 1946, for a period of one year ending on 31st March 1947. On this occasion, an undertaking was given by the Government that in the meantime the case of the industry would be examined before a final decision was made in regard to the further extension of protection to the industry. It was also suggested that this matter would be considered by the Tariff Board. Unfortunately there was some delay between the debate in the Legislature in 1946 and the reference of the case to the Tariff Board in December 1946, with the result that it was not possible for the Tariff Board to undertake a full-dressed enquiry into the subject and to submit its report in time for the Government of India to take action before the present protection expired on the 31st March 1947. The Tariff Board therefore undertook a summary examination of the case of the industry in January 1947 and submitted its report to the Government in February 1947. The resolution of the Government in announcing this enquiry stated that in the present abnormal conditions, it would not be possible to formulate a long-term

tariff policy in respect of well-established industries like sugar, paper, cotton textiles, and iron and steel, and that the Tariff Board was directed to hold a summary enquiry into this (as also others) industry and advise the Government whether in the present circumstances protection at the existing or at different scale should be granted *for a further year* after *the* 31*st March* 1947.

Alternatives before the Board

In accordance with the above resolution, the Tariff Board invited views from interested parties in January 1947, and then convened a conference of the interests concerned at Bombay on the 12th and 13th February 1947. It was pointed out to this conference by the Tariff Board that the industry had attained the present position under the shelter of protection which it had enjoyed during the last 15 years, and especially during the last 7 years, when, as a result of abnormal conditions regarding short supplies, lack of competition from abroad, etc. it had been placed in an exceptionally strong and favourable position. These conditions still persist and the question may, therefore, be asked, observed the Tariff Board, whether the industry was not in a position to stand on its own legs without any protection or assistance from the State. The Tariff Board also observed that it was urged in the Assembly debates that "protection should ordinarily be regarded as a temporary expedient intended to enable a struggling or distressed industry to survive foreign competition either in the initial stages or during a period of depression," and that one of the conditions to justify protection was that the industry would within a reasonable time be in a position to dispense with it. The Tariff Board observed that it had an open mind on the subject and was prepared to consider the whole case in the light of the views put before it by the various interests concerned. It observed, however, that as the problem appeared to it at the moment, it was capable of being resolved in any of the following alternatives or a suitable combination of some of these alternatives. The alternatives are:

(i) Maintaining the present protection for a further period of one year ending March 31, 1948, and stipulating the institution of a Tariff Board inquiry into the industry in the latter half of 1947 if conditions are expected to be fairly normal by then.

(ii) Maintaining the present position regarding protection for a further period of one year but keeping the protective duties in abeyance, partially or wholly, through an executive order under the Sea Customs Act or the Indian Tariff Act, subject to institution of a Tariff Inquiry in the latter half of 1947 to determine the nature of protection, if any, required for the industry as a permanent measure.

(iii) Holding that the industry has failed to make out a case for continuance of protection which should therefore be withdrawn, leaving it to Government to impose such revenue duties as may be decided upon purely on budgetary considerations.

The Tariff Board also pointed out that the burden of proving that protection was necessary under the conditions existing rested heavily on the industry and also observed that protection had to be justified on the following principles:

(i) that there exists competition from which the indigenous industry requires protection;

(ii) that the protection required is temporary and will be dispensed with within a reasonable period;

(iii) that the cost to the consumer arising from the production is reduced to the minimum; and

(iv) that the industry is run on sound business lines.

We will now consider briefly the viewpoints put forward by the various interests who appeared before the Board.

The Case of the Industry

The industry emphatically pointed out that the time for the "de-protection" of the industry had not yet arrived. It was also urged that the industry had shown a phenomenal progress in so far as its output was concerned, that considerable advance had also been made in respect of its manufacturing efficiency, but *the initial handicap of the industry on account of the comparatively low quality and high cost of the principal raw material, namely, sugarcane, still continues practically the same as before. The industry also observed with a good deal of emphasis that if this original handicap in respect of sugarcane still remained, the responsibility for such a state of affairs should be laid on Government rather than on the industry. It was also added that protection in the case of the sugar industry was intended not so much for the sake of the manufacturing industry as for the agricultural side of it, and that so long as production of sugarcane in India remained inefficient as compared with that of rival countries like Java, Cuba, Hawaii, etc.—and it was likely to remain so for many years to come—protection to the industry must be maintained.* It was stated that although there had not been competition from imports in recent years and at the present time, there were clear indications that the sugar industry in Java and other countries was being rapidly rehabilitated, as a result of which imports of sugar might come into the country at competitive prices at any time. It was also urged that so long as the cultivation of sugarcane in Java continued to be comparatively superior to that in India on account of the fact that sugarcane was produced in Java by the factories themselves under a highly organised and scientific system, while its cultivation in India for the major part continued to be carried by small farmers without proper resources and organisation, the difference in the quality and cost of sugarcane between the two countries was bound to remain great, thereby materially affecting the competitive capacity of the Indian sugar industry. The industry claimed that many of the units of the sugar industry in India could manufacture sugar equally as cheaply as Java, provided they got sugarcane of high quality at as low a price as in Java. It was also urged that although protection had been in existence normally for a period of 15 years, the last 6 or 7 years were abnormal in that the industry had little chance to import machinery in order to expand its productive capacity and improve its efficiency, or carry on experiments in the utilisation of by-products. It was further contended that the industry had been severely controlled during the last few years in respect of its price and profits and that the industry did not have any chance to put by adequate reserves for post-war expansion and improvement.

In view of these special and abnormal handicaps from which the industry had suffered and due to which it had not been possible to strengthen its financial position and improve its manufacturing efficiency during war time, the industry urged that it was entitled to the *continuance of protection.*

The industry also stated that protection was no burden to the consumers as the duty was practically ineffective, and there were no imports.

The Indian Sugar Syndicate drew the attention of the Board to the *fact that the expansion of the sugar industry to achieve the target figure* of 18,00,000 tons of sugar fixed by the Government of India, would require investment of several crores of rupees, and if protection is taken away, the confidence of the entrepreneurs will be shaken and the expansion envisaged by the Government of India will be handicapped considerably.

U. P. and Bihar Governments' View for continuance of Protection

Mr. B. B. Singh, Chairman, U. P. & Bihar Sugar Commission, who represented the Governments of U. P. and Bihar, observed that the objective of protection in this case should indeed be not merely to save the industry from foreign competition, but also to make the country self-sufficient in respect of sugar. For this purpose, he stated it was necessary to attract capital for the expansion of the industry to a considerable extent. He feared that if these duties were removed now, capital would become shy and there would be no expansion of the industry either by replacement of the present plants or by setting up of new factories, and such a state of affairs would cripple the industry in that the objective of self-sufficiency of the country in respect of supply of sugar would be defeated. He concluded by saying that *the views of both the U.P. and Bihar Governments, whom he represented, were that the present protective duties should be continued for at least another year,* and that the proper time for a general enquiry into this question might arrive at the end of 1949 or at the beginning of 1950.

The importers observed that as the present C. I. F. price of sugar was about Rs. 1,100 per ton, which was roughly equal to about double the price of Indian sugar, there was no need for protection to the industry at the present time. They also pointed out that the sugar position was still tight, there being a shortage of over 30% in relation to demand, and that Java would not be able to increase her production so as to have an exportable surplus during the next 4 or 5 years.

Sugar Controller's plea for Continuance of Protection

The Sugar Controller for India, Mr. N. T. Mone, referred to the magnificent progress of the Indian sugar industry and stated that the efficiency of her factories was comparable to the factories of other countries. He referred to the serious handicaps of the sugar industry during the war years due to the rise in the cost of raw material, and observed that the cost of sugarcane which forms 60% of the total cost of production was steadily increasing.* He also referred to the fact

*As pointed out in the "Sugar Industry at a Glance", the cost of sugarcane in 1947 forms 70% of the cost of sugar. *Vide* page xxv.

that the plants had been overworked and repairs and renewals were not possible owing to non-availability of machinery and its high cost. He also admitted the fact that the factories had not been able to lay by any reserves, because their profits, unlike other controlled industries, had been very rigidly controlled.

The Sugar Controller also explained the method of price fixing and admitted that a number of sugar factories had not been able to obtain a reasonable profit during recent years, on the prices fixed. Due to this, factories cannot be blamed if no visible progress was made during the war years. He urged that the industry could not be blamed for doing nothing. He also referred to the handicap of the cane-grower, in whose interest equally the protection was given, owing to the lack of cattle, irrigation facilities, fertilisers, agricultural implements, etc. Cane research had not made any appreciable headway, with the result that the yield of cane and recovery of sugar from it had remained more or less static. The Sugar Controller laid great stress on the fact that there was a big gap between production and requirements which could not be bridged except under a long-term plan. India had, therefore, become a fruitful ground for foreign adventurers, when opportunity came. To improve the situation, plans were on hand which required huge capital costs. *The cost of raw material and consequently, the price of sugar, was bound to remain high in India.* On the other hand, in other countries the world's sugar position was found to be fast recovering and there was every possibility that within the next 2 or 3 years world production might become equal to the demand. Java's sugar industry could not remain dormant for long. It was well known that in pre-war time Java sugar could be landed on Indian shores at a ridiculously low price of Rs. 2-7-0 per maund. Even if Java's costs had gone up, it would seem that they would not be anything comparable to the Indian costs. *This was, therefore, according to him, just the time when the industry and the cane-grower, now that the period of protection had expired, should be reassured that protection would continue and to the extent required, so that there was no fear of any foreign competition.* He observed that anything less than this assurance would be futile to progress.

The Sugar Controller also added that the sugar industry was closely linked up with the agricultural economy of this country and was of great national importance requiring careful nourishing. *He suggested that it must be made unequivocally clear to the industry and cane-grower alike that it was the policy of the Government to continue protection almost indefinitely.* According to him the most advisable course was to maintain the *status quo* even though protection may be of theoretical importance owing to the existence of complete control over sugar, whether imported or locally produced. Controls, he pointed out, were, however, war-time measures and no one could foresee what form sugar control might ultimately take. There might or might not be price control which Government might achieve indirectly by undertaking proper planning of crops. He pointed out that the Board should, therefore, not be influenced by the fact that complete control existed today, making protection a matter of mere academic importance. The question whether protective duty should be lowered

or maintained could not be answered in the absence of necessary data. He observed, however, that *it should certainly not be withdrawn owing to the repercussions it would have on the industry and cane-grower. He emphasised that the continuance of protection at this critical time would have a steadying effect upon all concerned and would also act as a powerful check against dumping of sugar by foreign imports.* The Sugar Controller also stated that in 1946, after making a summary inquiry on the material available, the Government of India had decided to continue protection upon a fuller enquiry. He did not see how the situation this year (1947) had changed in any way and it appeared to him, therefore, that protection should be continued.

Last of all, and not the least, the Sugar Controller observed that it might be difficult, owing to international pressure, to revive the lost ground, if once the position of vantage was given up either by withdrawing protection or holding it in abeyance. There seemed to be no obvious advantage in doing so. He, therefore, suggested that continuance of protection might do some positive good, and he added that if imports were urgently required, as they were at the present time to meet the gap between supply and demand, it was always open to Government to remit protective duties.

The Indian Central Sugarcane Committee also recommended continuance of protection for a long time to come in the interests of the developing industry (For details, see Part II.)

Reasoning of the Tariff Board

The Tariff Board considered carefully the progress made by the industry since the beginning of the policy of protection. It referred to the report of the Sugar Panel appointed by the Department of Planning and Development of the Government of India, which estimated the present capacity of the industry at 10,80,000 tons. The Panel also estimated that by 1950 the country's requirement of sugar would be 15,50,000 tons, and after providing for export of 50,000 tons to neighbouring countries, recommended a target production of 16,00,000 tons for the period ending 1950. For this purpose, it recommended the expansion of existing smaller units to a capacity of 800 tons and the addition of 20 new units. The Sugar Controller, however, estimated the demand of sugar in the next three years to be of the order of 18,00,000 tons and he suggested the installation of some 45 new units in the industry. (The Government of India also considered the target production of 16,00,000 tons as recommended by the Sugar Panel to be too low and have increased it to 18,50,000 tons and have sanctioned additional 25 new units in 1947). The Tariff Board also referred to the progress made by the industry in the recovery of sugar from sugarcane, which has gone up from 8.70 per cent in 1934 to 10.2 per cent in 1944-45. The Tariff Board examined at great length the question of the quality of cane and came to the conclusion that there was yet great scope for improvement in the quality of cane regarding its sucrose content, and also the yield per acre. The Tariff Board was convinced that intensive research which was necessary would necessitate large-scale public expense on the agricultural side. They were informed that the Government of India were placing at the disposal of the Indian

Central Sugarcane Committee funds at the rate of 1 anna per cwt. from the excise duty on sugar, and had also made in 1945 a special grant of Rs. 125 lacs to the Committee for a five year research programme. They felt, however, that India had to traverse a very long distance yet in regard to the planning for the future improvement of the sugar industry, particularly in its agricultural aspects, to reach anywhere near the same level of efficiency as prevails in Java. The Tariff Board stated that in 1936-37 the yield of sugarcane per acre in Java was 56.2 tons as compared with 15.6 tons in India, and that the cost of cane in Java in 1937 was stated to be one anna per maund as compared with 4 to 5 annas per maund in U.P. and Bihar, 7 annas per maund in Bengal, and 7 to 12 annas per maund in Bombay in the same year.

More Funds for Research recommended by Tariff Board

In view of the great leeway to be made up before India can achieve a parity of competitive efficiency with Java and other foreign countries, the Tariff Board endorsed the recommendation of the Sugar Panel that the Central Government's grant to the Indian Central Sugarcane Committee of 1 anna per cwt. of sugar from the excise duty, should be increased to 4 annas per cwt.

In our *Annuals* (also *vide* Preface to our 1945-46 *Annual*) we have been emphasising for the last few years the necessity of the Government of India granting a larger amount of money for purposes of research and we are pleased that the Tariff Board has also seen its way to make this recommendation. We are pleased to note that the Government of India have accepted this recommendation of the Tariff Board and have decided to place a larger amount of money at the disposal of the Indian Central Sugarcane Committee for augmenting work in the direction of improvement of the industry both in its agricultural and manufacturing aspects.

On the basis of production of 10,00,000 tons of sugar by the factories in India, the amount available annually for such expenditure will be Rs. 50,00,000 at the rate of Rs. 5 per ton, with effect from 1947-48.

World's Sugar Production—Tariff Board's Idea

The Tariff Board also considered the world's sugar production and noted that the world's production of sugar of 23,000,000 tons in 1945-46 was 6,000,000 tons, or 21 per cent less than the normal pre-war production of 29,000,000 tons. It was expected that production would rise to about 27,000,000 tons in 1947, but this would depend upon the pace of recovery in the liberated countries. The Tariff Board considered it possible that production might be restored to the normal pre-war level of 30 million tons by 1949. In regard to the question of imports, the Tariff Board held the view, on a review of the position of the world markets, that the present shortage of sugar in the world as a whole may continue for another year and expected that the position may become easier towards the end of 1947-48.

Case for Continuance of Protection

The Tariff Board first addressed itself to the question as to whether there was any danger at the present time of imports coming into the

country at prices lower than the price of sugar in India, and came to the conclusion that under the conditions of today, the Indian Sugar Industry need not fear any competition from imports coming at a lower price. Although in some countries of the world the controlled price of sugar was lower than the price in India, the Tariff Board held the view that there was little likelihood of such imports being sold in the country at prices lower than the price of indigenous sugar, even if such imports were landed in the country at a lower price.

This would be the position if there were no control of sugar in the country, and so long as control continues there must, of course, be a uniform price for all sugar, imported or indigenous. Consequently, it may be argued, observed the Tariff Board, that no harm would be done to the sugar industry if protection were withdrawn for the time being. But the Tariff Board stated that one must not lose sight of the fact that the present world position of sugar and existing levels of sugar prices in the world were abnormal and were likely to change materially in the next two years or so. When political stability was restored, it would be possible for Java and other main sugar producing countries to increase their output and possibly reduce their cost of production within a year or two, and there would then be a possibility of imports of sugar coming into the country in fairly substantial quantities, and at lower prices. The Tariff Board of 1937 estimated the fair selling price (inclusive of excise duty) of sugar in India at Rs. 8-5-4 per maund. The present price of sugar in the country is Rs. 20-14-0 ex-factory in the main sugar producing areas. This increase of approximately Rs. 12-8-8 per maund is to be largely accounted for by an increase in the price of cane from Re. 0-5-6 to Re. 1-4-0 per maund, and an appreciable rise in wages and salaries, in the prices of other materials, and also a rise in the excise duty on sugar from Re. 1-7-6 per maund to Rs. 2-3-3 per maund. The c.i.f. price of Java sugar in 1937 was estimated by the Tariff Board at Rs. 2-7-0 per maund and in 1939 by the Government of India, Commerce Department, at between Rs. 3-8-0 and Rs. 4-3-8 per maund. Even if we take the highest of these figures, i.e. Rs. 4-3-8 per maund, the c.i.f. price of Java sugar must now rise at least 5 times as compared with what it was in 1939, in order to become as high as the present price of sugar in India. Should the c.i.f. price of Java sugar be higher than the 1939 figure by as much as 200 or 300 per cent, even then it would be possible for Java sugar to undercut Indian sugar by a fairly big margin. This is one side of the picture.

Possible Increase in Price of Sugar

Looking to the other side, namely, the possible variation of sugar price in India, it does not seem probable that the price will go down in the near future. The price of sugarcane and the price of sugar in the country have gone up continuously during the last few years. The price of sugar rose from Rs. 11-9-0 per maund in 1941 to Rs. 13 per maund in 1942, Rs. 14-8-0 per maund in 1943, Rs. 16-4-0 per maund in 1944 and Rs. 20-14-0 per maund in 1946. It is not improbable that this price may go still higher in the near future. For one thing, it is reported that the sugarcane producers in the U.P. and Bihar were not satisfied with the price of Re. 1-4-0 per maund of sugarcane, in 1946-47 and were demand-

ing a price of Rs. 2 per maund. The Sugar Controller has furnished the Tariff Board with a statement of index numbers of prices from which it could be found that the price of sugarcane in 1946 was much below parity with the prices of wheat and rice. Thus, taking 100 as the base price of each of the three articles in August 1939, the index number of sugarcane rose to only 205 in July 1946, as compared with 632 for wheat and 324 for rice in the same month. If the prices of wheat and rice continue to rule at their present levels, it might be necessary to raise the price of sugarcane still further. Besides, there was strong demand from labour for increase in wages and other amenities. In the light of these tendencies, the Tariff Board observed that the price of sugar in India was not likely to come down in the near future. On the contrary, it was probable that it would go up. The Tariff Board, therefore, came to the conclusion that having regard to the present price of sugar in India and the probability of further increase in that price, and taking into consideration the big gap lying between the Indian price and the possible c.i.f. price of Java sugar, the Indian sugar industry might run the risk of being undercut by lower priced imports of Java (or other foreign) sugar after one or two years.

Board's Recommendation for Continuance of Protection

The Tariff Board observed that there were no imports of sugar into the country during the last six years, and that during the whole of this period, therefore, the present protective duty had been practically ineffective, nor had it imposed any burden on the consumer. The Tariff Board also stated that no sizable quantities of sugar are likely to be imported into the country during the next 12 months or so, and that such quantities of imports as might be available were likely to come at a price much higher than the internal price of sugar in the country. It would follow that the present protection was likely to continue to remain unnecessary for a further period of 12 or 18 months from now (March 1947). In these circumstances, it might have been thought appropriate to terminate the present protection. But as indicated earlier in their report, the world sugar industry was likely to be rehabilitated and its production stepped up to normal pre-war levels in a period of 18 months or two years. It was therefore probable that competition in the sugar industry might begin again in about two years' time. In such an event, it would also be possible for imports to come into the country in appreciable quantities so as to compete with Indian sugar. It was not possible just then to anticipate what the world price of sugar was likely to be in about two years' time, because it would depend partly on the post-war cost of production of sugar in other countries and partly on the general currency and price policy followed in those countries. The fact, however, remained that in 1937-39, the c.i.f. price of Java sugar was estimated to have varied between Rs. 2-7-0 per maund and Rs. 4-3-8 per maund. Taking this important factor into consideration, the Tariff Board observed that they did not see any reason to think that the c.i.f. price of Java sugar might rise to as high a figure as the present price of sugar in India, namely, Rs. 20-14-0 per maund ex-factory. Java was India's main competitor in the sugar industry in the past and is likely to remain, at any rate potentially, one of the main competitors in the future, with a possible price level for sugar as indicated above. It

was, therefore, probable that the Indian sugar industry would again require protection against imports of sugar from Java in about two years' time. There might also be possibly competition in the Indian sugar trade by imports of sugar from other countries as well when the world sugar industry would have achieved its full production. Since, in any case, there was, in their view, a definite probability of competition in the sugar trade setting in within a period of about two years, when the question of protection to the Indian sugar industry might again become important, the Tariff Board did not think it desirable that the existing protection, though unnecessary and ineffective at the present time, should be terminated.

Protection to the Sugar Industry is Protection to Indian Agriculture

The Tariff Board also stated that their above conclusion was reinforced by the further fact *that protection of the sugar industry was in effect, protection of the sugarcane cultivation in India, which was an integral part of India's agricultural economy.* They, therefore, recommended continuance of the present protection for a further period of one year. The Tariff Board also expressed the opinion that since *the Indian sugar industry was likely to require protection for some time to come*, a detailed inquiry into the extent of protection necessary should be undertaken when conditions both in India and abroad became more normal. When they reported (March 1947) the Tariff Board did not expect that such normality would be restored before the end of 1948.

The Tariff Board also observed that although it was precluded by the terms of its reference from recommending the continuance of the existing protection for more than a year, *they wished to draw the attention of Government to the desirability of extending the present protection for a period of two years ending 31st March 1949, and instituting a tariff inquiry during the latter half of 1948.*

The Tariff Board also recommended that the possibilities of establishing industries subsidiary to the sugar industry should be properly investigated. They stated that they attached great importance to this recommendation and suggested that all facilities should be given to the sugar factories to establish these subsidiary industries.

Government's Resolution of March 1947

We give below the full text of the Resolution of the Government of India dated the 29th March 1947 containing their decisions on the recommendations made by the Tariff Board :

The following is a Resolution [No. 218-T(25)|47, dated the 29th March 1947] of the Government of India in the Department of Commerce :—

In their Resolution No. 28-T(6)|46, dated the 20th January 1947, in the Department of Commerce, the Government of India requested the Tariff Board to hold a summary enquiry and advise Government whether, in the present circumstances, protection at the existing or at a different scale should be granted for a further year after the 31st March 1947, to the sugar industry.

The Board, having conducted an enquiry, has submitted its report. Its main recommendations are as follows :—

(1) The present Central Government grant to the Indian Central Sugarcane Committee of 1 anna per cwt. of sugar from the Excise Duty should be increased to 4 annas per cwt.

(2) All facilities should be given to the sugar factories to establish subsidiary industries.

(3) The present protective duties should be continued for a further period of one year.

The Government of India accept the recommendation that the existing protective duties should be continued for a further period of one year ending the 31*st March* 1948. The necessary legislation to give effect to this decision will be undertaken as soon as possible.

The Government of India also accept recommendations (1) and (2) of the Board.

1945-46 *Annual's Recommendations for Protection endorsed by Tariff Board*

It has been a matter of great satisfaction to us to find that the Tariff Board came to the conclusion that protection to the industry should be continued at the present time. In this context we wish to remind our readers that in the preface to our 1945-46 Sugar Industry *Annual* (published in November 1946), we had referred to this question in great detail and had suggested after a careful consideration of the position that, in our view, protection should be continued to the industry at the present level and for a further period of 3 years during which time the Tariff Board could conduct an inquiry, as conditions were likely to be more normal in the year 1948. We are glad to find that the Tariff Board has exactly endorsed our recommendation and has come to the identical conclusion that protection should be continued till 31st March 1949, and that a tariff inquiry should be instituted in the latter half of 1948. It is true that the Government of India have continued protection for the present for a period of one year only, that is, till 31st March 1948, but we have no doubt that protection to the Indian sugar industry will be continued indefinitely until a further full-fledged inquiry is held by the Tariff Board. It does not seem to us that such an inquiry can be usefully undertaken before 1948 or 1949, as conditions in the country's (as also the world) sugar industry till then will be abnormal. What is more, it has been a matter of great pleasure to us to find that the Tariff Board has expressed itself categorically that protection of the sugar industry in India is, in effect, protection of the sugarcane cultivation in India, which is an integral part of India's agricultural economy. So long, therefore, as Indian agriculture remains in its present backward state, and so long as it is not possible to effect a radical improvement in the yield of cane per acre in India, as also its quality and cost of production of cane per acre, and bring it on a level with conditions in Java and other important sugar producing countries of the world, protection to the sugar industry, which is in essence, protection to Indian agriculture and cane cultivation, will have to be continued by the Government of India. We feel that even with the utmost care, this will take much more than a decade to be anywhere near the conditions in Java.

Great Agricultural Improvement essential before Protection can be Removed

We are pleased to find that the Tariff Board has noticed the essential difference between the Indian sugar industry and other industries like, for instance, cotton textile and steel, namely, the preponderating cost of the raw material in the manufacture of the final product. *The cost of sugarcane today works out to 70 per cent of the total cost of manufacture of sugar,* and unless it is possible to bring about an appreciable reduction in this item, which, in turn, depends upon a general improvement in the agricultural conditions in the country, it is impossible to foresee when protection to the sugar industry could be dispensed with. The manufacturing efficiency of Indian sugar industry is fairly satisfactory and although it may be possible to effect some improvement therein, the question whether the Indian sugar industry will have to be protected in the future will depend not so much upon the efficiency of the manufacturing side, but upon the agricultural side, namely, the availability of cane at a cheap rate. The responsibility for a general improvement in the agricultural conditions, which alone can lead to a reduction in the cost of production of cane, by increasing the yield of cane per acre and improving the quality thereof, will remain largely that of the Government, aided no doubt by the industry to such an extent as is possible.

Technical Efficiency of Factories

It will be relevant to refer here to the technical efficiency of the sugar factories in India. Table No. 39 in the "Sugar Industry at a Glance" shows the technical efficiency of factories and recovery in India, as compared with various other countries.

It will be seen from that Table giving the overall reduced rates of recovery (which denotes the technical efficiency of factories), that in India the technical efficiency of the factories was 83.35% in the year 1937 and it rose to 85.04% in 1940-41. This figure of technical efficiency in India for 1940-41 is better than Natal (82.6%) and is equal to that of Mauritius (85.1%). We have, of course, much leeway to make up to reach the level of Hawaii and Formosa. In the year 1934, the recovery in India was 8.70% and in 1940-41 it rose to 9.72%. There is thus an increase of 1.02% up to 1940-41, and is higher still if recovery of 1945-46 is taken. This increase can be due to either improvement in the technical efficiency of the factories or in the quality of cane. An analysis of these figures shows that the share due to increase in factory efficiency works out to 0.18% out of a total increase of 1.02%, that is, 17.65%, while the share due to improvement in cane quality is 0.84% out of a total of 1.02% which works out to 82.35%. These figures have been taken from the Report on the Survey of Sugarcane Research prepared for the Imperial Council of Agricultural Research by Mr. N. L. Dutt, Sugarcane Expert in charge of the Coimbatore Sugar Research Station, published in 1946.

Future of Protection to Sugar Industry—Necessity of Continuance for Some Years

Having discussed the recommendations of the Tariff Board and the action of the Government of India in continuing protection for a period

of one year ending on 31st March 1948, the question now arises in one's mind as to what action the Government of India will take after the 31st March 1948, in regard to the continuance of protection. We feel that there is no point or purpose in conducting a further inquiry into the industry in 1948, as conditions today are not dissimilar from the conditions in February 1947, when the Tariff Board reported, and are too abnormal to allow a correct appraisal of the situation. The Tariff Board also suggested that had it not been for the fact that their terms of reference precluded them from doing so, they would have recommended continuance of protection till the 31st March 1949, and institution of a Tariff Board inquiry towards the end of 1948. We hold the view that the Government of India should accept this recommendation of the Tariff Board and continue to give protection to the sugar industry till 31st March 1949. We also entirely endorse the conclusion of the Tariff Board " that the Indian Sugar industry is likely to require protection for some time to come and that, therefore, a detailed inquiry into the question of protection necessary should be undertaken when conditions in India became more normal." The Tariff Board did not expect that such normality would be restored before the end of 1948.

In fact, we feel that in view of the great leeway which India has to make up in respect of increase in the yield of cane per acre from the present average of 15 tons to at least 45-50 tons per acre all over the country—a process which will take a fairly long time in spite of the most strenuous efforts—the present protection to the industry, which is in fact protection to Indian agriculture, will have to be coninued for a decade or two more, and in order to hasten the date when protection would become unnecessary, Government should undertake long-term and short-term plans of research calculated to bring about a reduction in the cost of cultivation by increasing the yield and improvement in the quality of cane. It is most appropriate, therefore, that Government of India have decided, although belatedly, to increase their grant to the Indian Central Sugarcane Committee to the extent of Re. 0-4-0 per cwt. of sugar manufactured in factories, out of the proceeds of excise duty. A sum of Rs. 50,00,000 which will thus be available every year, commencing from 1947, will be very useful for this purpose. We are convinced that the most effective way in which the cane crop can be improved is by a liberal expenditure on comprehensive research as was done in Java, Philippines, etc. The Indian Central Sugarcane Committee will have justified its existence, only by achieving signal success in this direction at the earliest possible date.

Protection Duty no Burden—Protection an Unqualified Success

In this connection, we may point out that the present import duty on sugar is Rs. 6-12-0 per cwt. which with a surcharge of 20 per cent and addition of an equivalent excise duty of Rs. 3-0-0 per cwt. with a surcharge of 20 per cent thereon, amounts to Rs. 11-11-2 per cwt. The incidence of the present import duty, however, is far smaller than what it was in the past because of the extraordinarily rapid rise in the price of sugar during the last 5 years, i.e. Rs. 14-0-0 in 1943 to Rs. 20-14-0 per maund in 1946, made necessary no doubt by great increase in the

price of raw material, namely, cane, from Re. 0-8-0 per maund to Re. 1-4-0 per maund, exclusive of the cess of Re. 0-1-0 per maund, and increase in the manufacturing charges. Besides, it is easy to see, as the Tariff Board has observed, that protection has been no burden to the consumer whatsoever for during the last six years as there has been practically no import of sugar at all and the internal price of sugar in the country was controlled by the Government, thus leaving no opportunity to the industry to exploit the position by raising the price of sugar with a view to enhancing its profit. Indeed, it must be admitted that protection to the sugar industry has been an unqualified success in the sense that the country has been recompensed for the aid given to the industry, particularly in the war period, and that there is a wide scope for the future progress of this industry which may be secured by co-ordinated development of industry and agriculture. *The sugar industry is unique in its link with agriculture, a link for which there is no exact parallel in the case of other protected industries.* Besides, broadly considered, it comprises not only the modern vacuum pan sugar factories but also the village industry of manufacture of gur and khandsari sugar.*

As a result of the remarkable development of the sugar industry within the last 15 years, the country is now self-sufficient in regard to its requirements of sugar, and the Indian sugar industry has played a very important role in the war time economy of the country. It must also be admitted that with a minimum sacrifice on the part of the consumer, India has been able to develop a very important large-scale industry, and this is a feature about which the country may legitimately feel proud. The gain in the long run will far outweigh the negligible sacrifice made by the consumer in the early years of protection. With the assistance of research one may expect that in a few years the price of sugar may be lowered, when the general level of prices in the country falls.

A word of explanation is necessary here in regard to the continuous rise in sugar prices during the last 4 years. It would be easy to see that this rise was necessitated by the increase in the price of cane, which again became necessary due to increase in the prices of other commodities and in the cost of production of the cultivator. The increase allowed in the cost of manufacture on account of increase in the cost of spares, materials, etc. has been very negligible, and indeed, as has been pointed out in the previous pages, the Government of India have not made a liberal allowance for the same, out of regard for the interests of the manufacturer which have been ignored to a great extent. On this score, the manufacturer has a legitimate grievance, in that he has not been allowed a suitably higher margin of profit as in the case of several other protected industries, e.g. Cotton Textile, Steel, etc. to enable it to stabilise its position.

---

* For a detailed discussion of this aspect of the question as also the potentiality of further development of sugar industry in India, we would invite the reader's attention to Mr. M. P. Gandhi's "Problems of Sugar Industry in India—Scope and Prospects on reorganisation"—*with a foreword by Sir Purshotamdas Thakurdas.* (December 1945—425 pages, Rs. 12).

Relative Increase in Index Number of Sugar, Sugarcane, Wheat, Rice, etc.

In October 1946, the price of sugar was raised to Rs. 20-14-0 per maund as the price of cane had to be raised to Re. 1-4-0 per maund in order to compensate the cane cultivator for his increased cost, and give a fair deal to him. Even so, the cultivator of cane was not put on a par with the cultivator of other food crops like wheat and rice, because it was considered essential that the area under food crops should be increased out of regard for the interests of feeding the country. Apart from this compulsory increase in the price of sugar, it should be noted that the increase in the price of sugar relatively to the increase in the prices of other commodities has been far lower. A glance at Table No. 38 in the portion "Sugar Industry at a Glance" will show the relative increase in the index number of prices of other commodities during the last few years.

Rise in Price of Sugar in 1948 likely

In order to enable the sugar factories to pay higher wages to labour on the recommendations of the Wages Inquiry Committee in U.P. and Bihar, in 1947, and to compensate the manufacturer for his increased cost, and to give him a fair profit, we feel that it would be necessary to increase the price of sugar again in the year 1947 to the extent of about Re. 1 per maund. There should be no surprise, therefore, if the price of sugar during the ensuing season (1947-48) is fixed at about Rs. 21-14-0 per maund.

Protection Decidedly Advantageous to the Industry

The sugar industry has made satisfactory progress under protection granted to it since 1932. The results of the last 15 years have justified amply the wisdom in extending protection to the industry and its contribution is immense today for the welfare of the nation. It would be difficult to imagine what plight we would have been in, had there been no well-developed sugar industry in India and had we depended upon imported sugar for our essential needs. This aspect of the question is very forcefully and effectively brought out by Sir Purshotamdas Thakurdas in the course of his foreword to Mr. M. P. Gandhi's recent volume on "Problems of Sugar Industry in India—Scope and Prospects of Reorganisation", 1945.

Sir Purshotamdas observes:

> "If Sir George Schuster, as Finance Member of the Government of India, had not, as appeared then, taken his courage in both hands and decided to give protection to the sugar industry, the economic history of India during the war period as far as sugar consumers are concerned, and indeed even as far as the requirement of the Army in India is concerned, would have been substantially different. Those who wish to rely upon what they fondly called cheap sugar from Java would have had the mortification of seeing the Indian public falling back only on local gur production and large quantities of sugar would have had to be imported for the British and American troops in India who would otherwise have had to go without sugar. Thanks to the policy of protection, however, they had a considerably greater ration of sugar than what fell to the lot of the civil consumer in India."

After a careful apprisal of various relevant factors, e.g. the marvellous progress of the industry, the almost complete self-sufficiency that we have achieved in regard to sugar, the improvement in the lot of millions of cultivators as a result of better returns from the cane crop cultivation, the relief afforded by the industry in cutting down the problem of severe unemployment in the country, particularly amongst the educated and technical men, the subsidiary industries which have begun to spring up, the scope for profitable development which was afforded to indigenous dormant capital during a period of acute world depression, the development witnessed in villages in the gur industry, and the general confidence gained by industrialists and managers of big establishments in India by the development of the industry, we feel that any frank and unbiassed person cannot help arriving at the conclusion —perhaps the only conclusion—that the development of the Indian Sugar Industry has completely vindicated the policy of protection which has indeed proved a great blessing to the country. It has made possible for the people to get their quota of sugar, even during the war period, although perhaps in a smaller quantity, and has thus been responsible in eliminating a sugar famine which was the lot of many countries during the Second World War. The Sugar Industry today is unquestionably a great national asset and only due to its development to its present size, it was possible to supply this cheap, essential, energising food, containing 100 per cent carbohydrates, to the people of the country, at a time when there is a shortage of carbohydrates in general in all parts of the world.

Sugar Panel's Report, 1946— Target of Production, etc.

Having referred to the question of protection to the Indian Sugar Industry in view of its outstanding importance in the agricultural economy of the country, we may refer here briefly to the report of the Sugar Panel appointed by the Government of India in 1945 to investigate into the possibilities of increasing the sugar output of India and other cognate questions. The Report of the Panel on Sugar, Alcohol and Food Yeast Industries was published in the year 1946. Briefly, the Report recommended a target of production of 16,00,000 tons of sugar to be reached at the end of 5 years, of which 15,50,000 tons was for internal consumption and 50,000 tons for export outside India. The Panel also recommended 20 new units each with an annual production capacity of 10,000 to 12,000 tons of sugar to be installed as early as possible, and also the allocation of these units in areas other than the U.P. and Bihar which were concentrated with factories, in the interest of a proper dispersal of the industry all over the country. In our *Annual* for 1946 we have given the provincewise allocation of these 20 factories.

Allocation of 25 Units in 1947

The Government of India, in reviewing the recommendations of the Panel, came to the conclusion in 1947 that the above target should be increased to 18,50,000 tons of sugar per annum, and for this purpose they decided to allot 25 more new units among the various provinces.*

* With the creation of a separate Dominion of Pakistan, the target will have to be reduced to about 16 lakhs tons, as Pakistan area's normal consumption is about 2,85,000 tons. The number of new units will therefore have to be reduced by about 20. Also *vide* page xl.

We give below the allocation of these 25 new units made by the Government of India in 1947.

To Indian States—7 (Details to be decided by the Political Department.)

To British India—16 as follows:

Madras	.. 3
Bombay	.. 2
Bengal	.. 2
Punjab	.. 1
Orissa	.. 1
Assam	.. 1
U. P.	.. 4
Bihar	.. 2

The allocation of two units has been kept in reserve by the Government of India for the time being.

It will be of interest to note that in the allocation of these 25 units as many as 4 have been allotted for U.P. and 2 for Bihar, although no new units were allotted to these Provinces in the past in accordance with the allocation recommended by the Sugar Panel. The Governments of Bihar and West Bengal have invited applications for the establishment of further factories in their areas.

Cost of Further Expansion—Nearly Rs. 220,000,000

The Sugar Panel estimated that the total cost of machinery required for (*a*) fuller exploitation of the existing capacity of the sugar factories, (*b*) enlargement of the capacity of the existing small plants, and (*c*) construction of 20 new factories of 1,000 tons of cane-per-day-crushing-capacity, would be about 11 to 12 crores of rupees. If to this we add the cost of establishment of 25 new factories, the cost would be about Rs. 10 crores more. This would mean further investment in the industry to the extent of about 22 crores of rupees. The Sugar Panel has recommended that as far as possible sugar machinery should be fabricated in India.

Panel's Suggestions for Reduction of Cost of Sugar

It would be of interest to note that the Sugar Panel also recommended the continuance of protection to the sugar industry during the next 5 years. The Panel also made a suggestion for reduction in the price of sugar as that would help greater consumption of sugar in the country. They have observed that this is to be achieved by (1) lower cost of sugarcane, (2) higher recovery from cane, (3) lower excise duty, (4) improved efficiency, and (5) limiting of profit. The Sugar Panel had also laid considerable stress on intensification of agricultural and technological research and recommended a grant of Re. 0-4-0 per cwt. out of the excise duty to the Indian Central Sugarcane Committee for this purpose. As observed in the previous pages, this recommendation was approved by the Tariff Board and accepted by the Government in 1947. The Sugar Panel expected that if suitable steps were taken for intensifying cane development by propagation and introduction of new

varieties of cane giving higher yields per acre, by introducing the practice of ratooning, by providing adequate irrigation facilities, etc. it would be possible to increase the yield of sugarcane per acre generally by at least 25 per cent within the next five years.

Increase in Capacity of Plants to 800 tons recommended

The Sugar Panel recommended that factories with a crushing capacity of more than 250 tons and less than 800 tons daily should be encouraged to expand the latter capacity, if there were reasonable prospects of extra cane being found within an economic distance. It also recommended that all factories should be allowed to improve their efficiency by installing upto two sets of cane knives and 17 rollers, and enlarge their boiling house capacity. Generally, there has been restriction on the extension of capacity in factories in U.P. and Bihar, without obtaining the express permission of the Sugar Control Board. During the year 1946-47 several factories in U.P. and Bihar applied to the Government for grant of licences for extension of their sugar plants or installation of new machinery equipment for the purpose of improving the efficiency of factories. The U.P. Government received 23 applications, and the Bihar Government, 4 applications. In Bihar and U.P. the economic limit of a plant has been raised from 650 tons to 800 tons per day, and factories have been allowed to expand their capacity to this extent. The Warsaliganj Factory, in Bihar, licence for which was granted in 1947, is expected to start crushing cane from the ensuing season, and would require about 50,00,000 maunds of cane.

Power Alcohol—Manufacture Recommended

The Panel also recommended that it was desirable to develop the Power Alcohol industry in India, with the object primarily of (1) establishing an alternative source of motor fuel, partially to replace petrol, the supply of which in the country is short, (2) utilisation of surplus molasses which is wasted at present. The Panel recommended that 20 million gallons of Power Alcohol per year should be produced from molasses by the end of the next 5 years.

Molasses and Power Alcohol Production

Let us now turn to the question of molasses and Power Alcohol production. Molasses is a very important and valuable by-product of the industry and the output of molasses in India is far in excess of its present consumption. So far, due to lack of encouragement on the part of the Government, the Power Alcohol Industry, which can convert a large quantity of molasses into useful fuel for motor cars and trucks, is not developed in India. Although this by-product is utilised in India to some extent in the manufacture of Methylated Spirits, Power Alcohol, curing of tobacco, burning as fuel and as manure, a very large portion is thrown away as waste, poluting the countryside and water courses. On an average, from 100 tons of sugarcane, 10 tons of sugar and 3.6 tons of molasses are obtainable. Numerous useful products other than Alcohol can also be manufactured from molasses, such as, stockfeeds, edible syrup, surfacing roads, acetic acid, chemical solvents, etc. but today molasses is used to a very little extent for these purposes.

In our *Annual* for 1945-46 we have explained in detail Government's dilatory policy in encouragement of Power Alcohol production. Out of the total production of molasses of about 4,50,000 tons, after meeting internal miscellaneous demands of the country, about 4,00,000 tons of molasses would be available for conversion into Power Alcohol, and it would be possible to produce no less than 22 million gallons of Power Alcohol on the basis of one ton of molasses producing 56 gallons of Power Alcohol. The importance of development of the Power Alcohol industry at an early date has been fully explained and we hope and trust that the new National Government will give this matter suitable help so that it would be possible to establish the Power Alcohol industry in India at the earliest date.

We now give below a short history of the development of Power Alcohol in the U.P. and Bihar.

A NOTE ON THE HISTORY AND DEVELOPMENT OF POWER ALCOHOL INDUSTRY IN THE UNITED PROVINCES AND BIHAR

Report of the Joint Power Alcohol and Molasses Enquiry Committee, 1938

The first step in the development of the industry was taken in the appointment of the U.P. and Bihar Joint Power Alcohol and Molasses Enquiry Committee, 1938 (of which Mr. M. P. Gandhi was a member) whose recommendations established beyond controversy the fact that the production of power alcohol was desirable not only in national interest for the utilisation of an important bye-product of the sugar industry, but that it could be produced at a reasonable and economic cost. (For details see our *Annual* for 1939 or 1944.)

The U.P. Power Alcohol Act, 1940

In pursuance of the recommendations of this Committee, it was decided to undertake necessary legislation to provide for the fostering, development and regulation of the power alcohol industry. The Act was passed by the Legislature in September 1939, but did not receive the assent of the Governor until July 28, 1940. A short amendment of the Act was undertaken in 1940 to provide for (*a*) the use of straight petrol in an emergency, and (*b*) the exemption of Defence requirements of Motor Spirit from compulsory use of the mixture. The main provisions of the Power Alcohol Acts are :—

(*a*) Compulsory admixture of petrol with power alcohol in a prescribed proportion, which is at present in the ratio of 80 : 20 ;

(*b*) Complete monopoly of purchase and sale of power alcohol by the Provincial Government ; and

(*c*) Power to regulate the price within which the mixture of petrol and power alcohol shall be sold.

The First Unit of Production in Northern India

The Central Distillery, Meerut, imported a French plant in 1939, but owing to the delay in the enactment of the Power Alcohol Act and certain consequential arrangements for mixing by the oil companies, the unit did not commence production until April 10, 1941, and the first issue of the mixture was delivered in Agra on April 15. The distillery has an installed capacity of 6 lakhs gallons a year. It commands Meerut and Agra mixing depots which absorb about 3 lakhs gallons a year.

New Units of Production

During 1942, when there was a serious shortage of motor spirit, and supplies from overseas were threatened, the Government of India decided to promote the erection of new distilleries. As there was some doubt whether the requisite technical skill would be available in the country for the construction of new units, it was decided to limit the construction to distilleries producing high strength rectified spirit only, which means spirit containing 96% alcohol as against 99.5% content in power alcohol. It was anticipated that the new units producing high strength rectified spirit would be able to undertake conversion to the production of power alcohol by either adding a new column or importing one from abroad after the war. The new units and their capacity was as follows :—

	(*Lakhs gallons a year*)
(1) Shamli Distillery	.. 6
(2) Daurala Distillery	.. 5½
(3) Simbhaoli Distillery	.. 6
(4) Raja-ka-Sahaspur Distillery	.. 6
(5) Gola Distillery	.. 4½
(6) Hargaon Distillery	.. 4½
(7) Nawabganj Distillery	.. 6
(8) Captainganj Distillery	.. 6
(9) Rampur Distillery	.. 6

Production at New Distilleries

All the above units, which were producing high strength rectified spirit (96% by volume) in 1946 have come into production of Power Alcohol, one after the other from March 1947.

Distribution of Fuel Alcohol

The distribution of Fuel Alcohol for automotive purposes has been stopped in September 1946 since the D. I. Regulations under which, rules governing production and distribution of high strength rectified spirit as fuel alcohol were framed, expired in that month. In its place distribution of neat power alcohol has been started in the following districts with effect from March 1, 1947 :

		Month Demand
1.	Meerut	.. 26,000 gallons
2.	Bareilly	.. 15,000 ,,
3.	Naini Tal	.. 45,000 ,,
4.	Sitapur	.. 2,200 ,,
5.	Shahjahanpur	.. 7,000 ,,
6.	Gorakhpur	.. 14,000 ,,
7.	Benares	.. 11,000 ,,
8.	Allahabad	.. 23,000 ,,

Cawnpore has also started taking neat Power Alcohol from April 1947. The districts of Dehra Dun, Lucknow and Moradabad will also be included for the distribution of Power Alcohol from May 1947.

The monthly demand of these three districts will be as below:

1.	Lucknow	.. 38,000 gallons
2.	Dehra Dun	.. 31,000 ,,
3.	Moradabad	.. 11,000 ,,

It will be of interest to note from the reply given by the U.P. Government during the Assembly Sessions in 1947, that the total number of distilleries manufacturing Alcohol in U.P. was 17. During 1945-46 they produced 4,96,956 gallons of Country Special and I.M.F.L. 23,57,661 gallons of rectified spirit, 10,04,055 gallons of denatured spirit, 17,13,405 gallons of Fuel Alcohol, and 3,05,855 gallons of Power Alcohol. About 91½ per cent of the molasses produced in U.P. is likely to be utilised in the manufacture of Alcohol by Distilleries of UP., Indian States and other Provinces. The Excise Minister of U.P. also observed in 1947 that there were 9 Distilleries producing Power Alcohol in the Province and their total production capacity was about 50,00,000 gallons Power Alcohol per year. Two more Distilleries were under construction, with further capacity of about 20,00,000 gallons per year. In order to ensure an economic offtake for these Distilleries, Government had, under the Motor Spirit Rationing Order, compelled heavy transport vehicles to use Power Alcohol as motor fuel instead of petrol. The U.P. Government were in correspondence with the Government of India pressing them to pass a Central Power Alcohol Act in order to provide offtake for the surplus Power Alcohol of U.P. In view of these measures of U.P., the Government had reduced the price paid to Distilleries for Power Alcohol from Re. 0-14-6 per gallon to Re. 0-11-0 per gallon as from March 1st, 1947. The U.P. Government were also on the look-out for other avenues for disposal of their surplus Alcohol. Control on Molasses was considered essential in the interest of the infant Power Alcohol industry if it was to survive, as it should be provided with Molasses of reasonable quality at reasonable prices. For this purpose the U.P. Government had imposed control on disposal of molasses, and the U.P. Molasses Control Act was passed in 1947.

Development of Power Alcohol in Bihar

During the year 1946, the S. K. G. Sugar Ltd., Mirganj, in Saran District, installed a plant of the capacity of manufacture of 3,000 gallons per day, but the manufacture of Power Alcohol is at present suspended

for want of proper arrangement regarding purification of the affluent water. It can be seen from this that there has been no development of the Power Alcohol industry in Bihar till 1947.

Power Alcohol Industry in Other Areas

Power Alcohol is also produced in Hyderabad State, and in Bombay, where one of the sugar mills in the Deccan area has been equipped with the necessary plant for production of 30,000 gallons of Power Alcohol per day, and in Msyore, where Power Alcohol continues to be produced since 1939 for compulsory admixture with petrol. In Bombay also the use of Power Alcohol as admixture with petrol is compulsorily enforced in some areas.

Molasses Control Orders in Provinces

Control over molasses exists in U.P. and Bihar. The Government of U.P. placed restriction on the movement of molasses by an order issued on the 9th September 1942. In March 1944, the U.P. Molasses Control Order was amended. Minimum price for molasses was also fixed for sale to Distilleries, for the manufacture of Power Alcohol and Rectified Spirit and for use as motor fuel. The Bihar Government also issued a similar order controlling the price of molasses and its disposal in 1943. The Bengal Government also passed their own Molasses Control Order.

There is, however, no central control over molasses. In 1947 the Bihar Molasses Control Act was passed by which control is placed on the movement by rail, road or river, of molasses produced by factories in Bihar or held by stockists there. In 1947, stocks were taken from the sugar factories in North Bihar at the rate of Re. 0-4-0 per maund, and from the sugar factories in South Bihar, at Re. 0-8-0 per maund. The difference in price is due to the fact that transportation charges were higher in North Bihar. 90% of the factory molasses was taken from the factories for supplying to Distilleries in Bihar for conversion into spirits. Out of this about 2 to 3 lacs maunds was given to the Bengal Government for their own Distilleries. 10% of the molasses was sold in the open market by the factories at higher rates.

The price of molasses fetched by the sugar factories in Bengal is very much higher. Molasses is being taken from the factories in Bengal at the rate of Re. 1-8-0 per maund, but it is understood that the Bengal Government had agreed to give subsidies to factories for molasses supplied to Distilleries by giving them further Rs. 2-8-0 per maund. Although the subsidy was promised, no factory in Bengal had received till the middle of 1947, any grant by way of subsidy for molasses supplied by them in the years 1946 and 1947. In 1947 the Bengal factories requested Government to grant a subsidy of Rs. 4-8-0 per maund of molasses, in view of the greatly increased price of molasses in Bengal.

The sugar factories in U.P. felt that they were being penalised by the control over molasses because, although the ruling prices of molasses were high, the U.P. and Bihar factories were compelled to sell at low prices and thus they were deprived of their legitimate profits. The U.P. Government had also imposed an export levy of Re. 1 per maund of mo-

lasses, and this was out of all proportion to what the U.P. factories received, viz.: Re. 0-3-0 per maund for distilleries, and Re. 0-8-0 when sold to dealers, the actual market price being ¼th to 2 Rupees in U.P. and Bihar and Rs. 4-8-0 to Rs. 6-8-0 in Bengal. The Indian Sugar Syndicate has represented to the Government of U.P. that the molasses of factories in U.P. should be pooled, in order that Distilleries might be supplied at controlled rates. But the quantities not required by them should be allowed to be sold in the market at reasonable rates and the profits so derived should be spread over the entire pool in order that all factories in U.P. may receive equitable profits. We feel that after meeting the requirements of molasses of Distilleries, to whom molasses in the required quantities may be supplied at rates fixed by Government, the balance of molasses should be allowed to be sold by the Syndicate in the local market and the funds pooled in order to ensure an equitable distribution of profit among the various units of the industry.

New Uses for Molasses

We suggest that the Indian Central Sugarcane Committee should devote their attention to finding out new uses for molasses, e.g. manufacture of Food Yeast, for purposes of manure, in land reclamation, etc. If a portion of molasses could be converted into Food Yeast of valuable vitamin content, it would be a great asset in the improvement of national diet. The Sugar Panel also recommended the establishment of the Food Yeast Industry, by making a small beginning.

New Uses for By-products of Sugar Factories

Bagasse: Bagasse, which is a fibrous husky product, left over after sugarcane-crushing and removal of juice, is at present mainly burnt as fuel in sugar factories. With an improvement in technical efficiency, economy in fuel consumption can be achieved, thus saving Bagasse for other purposes. In the present coal shortage, however, practically all the Bagasse is used as fuel. Bagasse has been found useful in the manufacture of insulated press boards, paper and strawboards. It could also be used in the manufacture of Rayon and Plastics. We suggest that science and research should be mobilised for better exploitation of its possibility for industrial purposes.

Press Mud: This is another small by-product of the sugar factory which can be utilised for preparation of fertilisers, activated carbon, dye-stuff, etc. We suggest that suitable research should be carried on for discovery of other uses for Press Mud from Sulphitation Factories, and Carbonatation Factories.

Confectionery, Biscuit and Canning Industry

Another direction in which there promises to be scope for development, is the establishment of confectionery, biscuit and fruit canning industries. Manufacture of Sugar Juices, Demera Sugar, Icing Sugar, Jams, Squashes, Biscuits and Canned Fruits should be encouraged. For all these articles sugar is an important ingredient and larger quantities should also be allocated by the Sugar Controller in order to promote these industries. If necessary, the import duty in respect of

some of these products which are imported from abroad, of which sugar is an important ingredient, should be increased to a level which would place the sugar imported in indirect forms at par with ordinary imported sugar.

Incidentally, this would also serve as protection for these industries in their period of infancy, if it was at all required.

We also recommend an increase in the allotment of the quantity of sugar to these factories.

Law and Legislation Re: Sugar during 1946-47

Sugar and Gur Control Orders, 1947 and Tariff Act, 1947

The Sugar and Sugar Products Control Order, 1947, and Gur Control Order, 1947, were re-enacted in 1947. Protective duty on sugar which expired on 31st March 1947 was continued till 31st March 1948. This action was taken by the Government of India following a Tariff Board inquiry which recommended continuance of protection for a period of another year. The Tariff Board was in favour of continuance of protection till 31st March 1949, but was precluded by its terms of reference from making such recommendation. We expect that the Government of India will continue protection to the industry at the present level till the 31st March 1949, by passing necessary legislation in this behalf before March 1948.

The Sugar (Temporary Excise Duty) Act, 1947

On 23rd October 1946, the Government of India imposed a temporary excise duty of Rs. 4-4-0 per ton to be levied on all sugar in factories or with dealers, or with retailers. This was done, as in 1944, with a view to preventing factories and stockists from deriving extra profits on their stocks. As the full amount of duty was not collected the Government passed the Sugar (Temporary Excise Duty) Act in 1947, as the Ordinance cannot remain in force for a period of more than six months. The Government of India expect to receive a revenue of Rs. 1,80,00,000 and out of this a sum of about Rs. 1,00,00,000 was decided to be given to the U.P. and Bihar factories at the rate of 9 annas per maund of sugar produced by them in the year 1947, in order to enable them to meet the cost of increased wages and other concessions granted to labour by Government in 1946-47.

Carriage of Sugar by passengers: With effect from July 1946, the Sugar and Sugar Products Control Order was amended in respect of the carriage of sugar as personal luggage, and under the Sugar Control Order, 1947 (Clause 8), transport of sugar which could be carried as part of personal luggage of *bona fide* travellers has been fixed at 5 seers as against 20 seers as before. At present, therefore, only a quantity of 5 seers can be carried as personal luggage. It is well known, of course, that no sugar can be transported by rail, road or water except under a general order or special permit issued by the Sugar Controller.

The Bihar Sugar Factories Control (Amendment) Act, 1947

The Bihar Government amended the Bihar Sugar Factories Control Act, 1947, during 1947, whereby provision was made for enabling Government to raise the amount of cess on cane delivered to factories, from Re. 0-1-0 to Re. 0-2-0 per maund. During the 1946-47 season the cane cess was increased to Re. 0-1-6 as against Re. 0-1-0 in the previous season, but later in the year the additional cess of Re. 0-0-6 was refunded to the factories, and therefore the effective cess during the season was only Re. 0-1-0 per maund in 1946-47.

Control over Khandsari Sugar

During the year 1947, the U.P. Government introduced an Order called the U.P. Khandsari Sugar Grading and Price Control Order, 1947. Another Order was also passed called the U.P. Khandsari Sugar and Khandsari Sugar Products Control Order, 1947. Under this Order the maximum price of Khandsari sugar was fixed at Rs. 26 for K-9 quality and Rs. 24 and Rs. 20 per maund for slightly lower qualities.

Profits of Sugar Companies

We have already referred in detail to the fact that the Government of India have not allowed adequate manufacturing cost of the sugar industry in the computation of sugar prices. The stringent control measures enforced from 1942, by which the industry is controlled almost completely, not only in respect of the price and purchase of its raw material, namely, cane, but also the sale of its by-product, namely, molasses, along with the price and movement of sugar itself, have greatly curtailed the scope and margin of profit in the sugar industry. From a review of the general position and the balance sheets of a large number of sugar mills, it will be found that the industry has not enjoyed great prosperity even during the war period, and in 1944-45, 1945-46 and 1946-47, a large number of sugar factories have made no profits at all, and indeed, incurred losses. This was also admitted by the Sugar Controller in his evidence before the Tariff Board in 1947.

We have referred to this question in detail in the preceding pages and have pointed out that while various other industries, namely, Cotton Textile, and Steel, have had a prosperous period during the war, the sugar industry was denied this and has not been able to distribute satisfactory dividends and to put by suitable reserves for replacements, renewals at high costs, and for any emergency. This is a very important matter which the Government should consider in any post-war policy affecting this industry, and should give adequate relief. The table on the following page will show the dividends paid by a few Sugar Companies from 1936 to 1946.

Capital and Net Block of a few Sugar Companies, and Dividends since 1936

Name of Sugar Factory		Paid-up Capital with Debentures*	Net Block	DIVIDENDS %										
				1936	1937	1938	1939	1940	1941	1942	1943	1944	1945	1946
		Rs.	Rs.											
Balarampur	...	28,00,000	23,94,169	10	3¾	2½	Nil	Nil	Nil	Nil	5	5	Nil	2½
*Basti	...	18,00,000	18,94,611	25	15	15	12	5	10	20	30	20	20	15
Bel-und	...	20,49 950	14,47 872	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil
Belapur	...	37,59,800	36,07,486	16	14	14	20	20	14	12	18	18	16	...
Bharat	...	6,25,000	4,91,832	7½	10	5	5	Nil	5	7½	12½	10	10	7½
Buland	...	24,00,000	22,69,814	5	6	11¼	11¼	12½	17½	22½	22½	25	20	Nil
*Carew	..	65,00,000	56,14,075	12½	10	10	Nil	Nil	Nil	Nil	12½	10	15	12½
Cawnpore	...	25,00,000	27,66,414	10	5	5	2½	2½	15	15	25	15	15	15
Champarun	...	18,00,000	19,47,896	20	5	5	7½	2½	15	15	30	20	20	15
Durbhanga	...	26,00,000	18,19,829	...	...	...	...	...	12½	10	25	10	Nil	5
*Deoria	...	8,99,452	10,33,906	...	...	5	5	Nil	5	7½	...	10	Nil	Nil
Ganesh	...	8,00,000	8,25,407	10	5	5	2½	Nil	12½	...	...	...	...	...
Ganga	...	8,52,841	9,36,912	...	...	9	18	12	20	20	...	...	...	...
*Gaya	...	9,84,200	11,27,452	8	8	8	8	8	8	..	8	8	6	...
*Mahaswastika	...	6,50,000	5,42,176	...	...	Nil	Nil	Nil	...	...	...	...	...	...
Modi	...	12 00,000	16 22,542	9	10	7	12	12	15	...	...	..	...	...
*Mysore	...	30,79,280	21,79,280	15	10	15	15	20	20	20	20	20	...	...
*Nawabganj	...	19,46,030	19,83,186	10	5	11	10	5	12	...	20	15	15	15
New Savan	...	11,00,000	8,00,000	10	Nil	Nil	Nil	Nil	10	7½	12½	15	7½	Nil
*New India	...	14,12,700	12,68,372	...	...	Nil	Nil	Nil	Nil	Nil	...	...	...	...
Punjab	...	11,93,642	26,17,247	20	15	15	6	Nil	10	10	10	15	15	...
Purtabpore	...	15,50,000	16,02,376	7½	Nil	Nil	Nil	Nil	5	Nil	12½	7½	7½	7½
*Ramnugger	...	24,00,000	28,99,038	...	...	Nil	Nil	Nil	Nil	...	...	...	10	10
Raza	...	15,00,000	20,28,609	10	7½	12½	12½	12½	17½	22½	22½	25	25	Nil
*Ryam	...	10,97,400	7,10,917	10	Nil	Nil	Nil	Nil	Nil	5	20	15	10	10
*Samastipur	...	17,19,000	11,94,577	Nil	Nil	Nil	Nil	Nil	Nil	5	10	7½	3¾	3¾
*Shree Sitaram	...	10,95,462	10,20,378	Nil	10	10	...	5	7½	12½	15	...	10	7½
*Sitalpur	...	13,01,310	12,05,659	8	Nil	2½	2½	Nil	Nil	5	6¼	6¼	2½	Nil
*South Bihar	...	13,25,000	16,79,861	15	15	25	10	9	15	10	...	...	...	...
*Upper Ganges	...	11,99,900	10,38,095	5	7½	7½	10	Nil	17½	15	15	...	...	...

* Only those marked with asterisks include Debentures.

Labour Legislation

During 1945-46 there was considerable Labour Legislation in the country. Some of this also affected the sugar industry, e.g. Factories (Amendment) Act, 1946, which limited the total weekly hours of working in the case of seasonal factories like sugar from 60 to 50 hours per week, and limited the working hours in any day to 10, as against 11 in the past. On a representation being made by the industry to the

Government that in view of the continuous manufacturing process involved in the sugar factories, it was necessary that they should be allowed to work 56 hours per week, in order to enable them to adjust the 3 shifts properly, which could not be done with 50 hours per week, in October 1946, the Central Government exempted the sugar factories from the operation of Section 34 and sugar factories have been allowed to work 56 hours, as before.

Labour Unrest in 1946 and 1947—Inquiry Committee appointed in 1946-47

During 1946-47 there was labour unrest in factories in India in general, and sugar factories particularly in U.P. and Bihar were no exception. Several disputes were referred for arbitration to the Labour Commissioner of U.P. Towards the end of 1946, however, in view of labour unrest in the industry, the U.P. Government appointed a Committee of Inquiry to examine and report on certain questions, e.g. prescribing minimum rate of wages, payment of dearfood allowance, bonuses, etc. relating to labour employed in sugar factories. As the matter concerned Bihar also, the Government of Bihar agreed to join the inquiry, and accordingly a Joint Sugar Factories Labour (Wages) Inquiry Committee of U.P. and Bihar was appointed on the 11th November 1946. The personnel of this Committee, the terms of reference, and their report along with a copy of the Resolution of the Government thereon, are given below:—

Report of the Sugar Factories Labour (Wages) Inquiry Committee, United Provinces and Bihar

We have come to the conclusion that considering the limited scope of this inquiry, our recommendations in respect of the terms of reference can only be for the current season, even though such a limitation is imposed only in the third term of reference and not in the first two. The reasons which have led us to this conclusion are briefly as follows:

2. Fixation of a minimum basic wage is a problem which requires study in much greater detail and of many more subjects that are within our terms of reference, a study which it has not been possible to do in the time at our disposal. For example, the question of the basic wage is very much inter-connected with other concessions which are of the nature of emoluments, like provident fund, insurance benefits or pension. It would also depend upon the amenities which may be considered essential for an industry to provide, for example housing, water, light, facilities for education and recreation, medical aid, etc. and on the conditions of service such as leave, holidays, etc. We understand that another Committee has been appointed in the U.P. to examine the various aspects of labour problems in much greater detail, and with the time at its disposal it would, we hope, be able to make recommendations of a more permanent character. We have also felt that the economic conditions have not at present reached a state of stability. Fixation of a basic wage must depend on stable conditions. With these limitations, therefore, we have only concentrated our effort on arriving at a satisfactory minimum total wage for this season. Any attempt to break this minimum total wage into a basic wage and dear-

ness allowance would, in our opinion, be futile until the economic conditions were settled. In the following paragraphs wherever we refer to a minimum wage, we mean the total minimum wage.

3. In considering what the minimum wage should be we had to consider the following factors:

(1) Rise in the cost of living.

(2) Comparative increases in salaries in other employments.

(3) Wages in comparable employments.

In addition, while we considered what the minimum requirements of labour, as given by the labour representatives in their evidence, were, we drew our inferences as to what we feel would be a fair and satisfactory wage. We had also to keep in mind the fact that particularly in the present state of high inflation a great and abrupt change in the existing wage level might have its repercussions on a very wide range both in the field of other employments and in the field of production of cane and food crops and their prices.

4. The evidence before us indicates that the present cost of living indices are about three times or slightly more as compared to the pre-war figures. We have little evidence to show what the comparative increases in other employments have been. But in the case of inferior Government servants the present emoluments (Rs. 15 pay plus Rs. 16 dearness allowance) are about three times or a little more than the pre-war pay of Rs. 9 or Rs. 10. The wages in other comparable employments are of the same order, i.e. varying between Rs. 30 to Rs. 37-8. The O. & T. Railway are said to pay their labour about Rs. 30 plus supply of rations at concessional rates, the value of the concessions being about Rs. 7-8. The agricultural labour is said to earn from 10 or 12 annas to about Re. 1 or even Re. 1-4-0 a day in different areas and in different periods. The rate is high at harvesting times naturally. The minimum wage in the sugar factories was fixed at 6 annas or Rs. 11-4 per month in the United Provinces and Bihar some time in 1940. Taking these factors into consideration we have unanimously come to the conclusion that the minimum wage should now be Rs. 36 per mensem. This minimum would, in our opinion, be fair and equitable and would leave a slight margin to enable labour to improve its condition.

5. The increase which we have suggested in the total minimum wage would undoubtedly have its repercussions on the workers in the higher wage scales in the sugar factories. We have paid serious attention to the question whether it would be practicable to fix a minimum wage for each category of workers; but classification of workers from factory to factory varies so much that it has defied standard classification at least in the limited time we have had. The Committee have however unanimously felt that they must suggest what increases should be given on the existing total wages consequent upon their recommendations for an increase in the total minimum wage. These increases have to be based on the total existing wages, inclusive of dearness and all similar allowances and is graduated so that the workers in the higher wage levels get proportionately a smaller increase. Our unanimous suggestions are as follows:—

From Rs. 23 to Rs. 30—an increase of Rs. 13 per month.
From Rs. 31 to Rs. 40—an increase of Rs. 12 per month.
From Rs. 41 to Rs. 50—an increase of Rs. 11 per month.
From Rs. 51 to Rs. 100—an increase of Rs. 10 per month.
From Rs. 101 to Rs. 200—an increase of 10 per cent of pay.
From Rs. 201 to Rs. 300—an increase of 7½ per cent of pay.

Marginal adjustments should be made in the case of those drawing a pay between Rs. 300 and Rs. 322-8.

6. Most of the labour in sugar factories is of a seasonal character. The question of payment of a retainer in the off-season has not been directly referred to the Committee in its terms of reference. Almost all the representatives of labour who appeared in evidence before the Committee have urged very strongly the necessity for payment of a retainer for both the skilled and unskilled worker. The evidence on behalf of the factories has led us to the conclusion that no uniform system is followed. Most factories give some retainer to some skilled workers. Nearly all pay nothing to the unskilled workers. The reason which has been adduced for non-payment of a retainer to the unskilled worker is that this class of labour is derived from agricultural classes who earn their livelihood from agricultural work in the off-season of a factory. In fact some evidence has gone so far as to suggest that employment in the factory by this class of workers is treated as off-season employment from an agricultural point of view. We have felt that there is considerable force in this contention. At the same time the fact must be recognized that the crushing season often overlaps an important part of the agricultural season. We therefore suggest a nominal retainer to the unskilled worker during the off-season. This would also create a sense of permanency and so far as the skilled labour is concerned, it depends entirely on the work in the factory and has no means of livelihood during the off-season. This fact has been accepted by the factory representatives themselves and almost all of them were in favour of giving a retainer to this class. We, therefore, suggest that there should be a uniform basis of paying 50 per cent of the total monthly wage as a monthly retainer to the skilled worker during the off-season. In the case of an unskilled worker the amount of the retainer need be only 10 per cent. There is an intermediate type of worker, i.e. the semi-skilled worker who can in our opinion earn some living in the off-season and he should be paid 25 per cent as retainer. The classification of skilled, unskilled and semi-skilled workers as suggested to us by the representatives from the Imperial Institute of Sugar Technology may be adopted for this purpose.

7. We have carefully considered the question regarding bonus. In this case the term of reference limits the inquiry for this season only. The Committee is unanimously of the view that the term 'bonus' implies a share in the profits and it follows that bonus is not payable in a season in which a concern runs on a loss. We are however unable to make any specific recommendations as to what share of profits should be given as bonus to the labour in the current season. The amount of profit depends on the season and the season has not yet ended. The profits would vary from factory to factory according to its size and according to the conditions of its working, the availability of cane

supplies, the length of the season and the recovery. While therefore we have come to the conclusion that bonus should be paid on profits, we consider it impossible to work out a general formula at this stage for the distribution of bonus, which can be applicable to all factories. The question as to what bonus should be given to workers by a particular factory can be decided only after the season is over and a balance sheet of the working of the factory is available.

8. In the evidence before us there was unanimity of opinion that any increases in wages the Committee might recommend should be given effect to by each factory from the *beginning* of *its* present crushing season and we agree with this view and recommend accordingly. Our recommendations regarding retainer may of course apply in the off-season immediately after the current season.

K. B. BHATIA, D. R. NARANG, BASAWAN SINHA, S. C. CHAUDHRI, KASHI NATH PANDEY, M. S. RAO, A. D. PANT.

January 5, 1947.

The Governments of U.P. and Bihar referred back to the Committee the question of bonuses to be paid by the sugar factories to their employees on the working of the 1946-47 crushing season. The supplementary report of this Committee and the resolution of the U.P. Government dated Lucknow, 7th February 1947, are given below:—

GOVERNMENT OF THE UNITED PROVINCES

INDUSTRIES AND LABOUR DEPARTMENT

No. 715(L)/XVIII

Lucknow, dated January 24, 1947

RESOLUTION

READ—

The report of the Sugar Factories Labour (Wages) Inquiry Committee, United Provinces and Bihar

1. There has been considerable unrest among labour in the sugar industry for some time now. This is one of the premier industries of the United Provinces and Bihar. Owing to the very short crushing season and dispersal of the industry mainly in the rural area where housing, medical and other facilities are lacking, labour in this industry has been suffering under special disabilities.

2. The conditions of labour in industry in the United Provinces generally leave a good deal to be desired and the Government of the United Provinces has appointed a Labour Inquiry Committee under the chairmanship of Mr. R. S. Nimbkar * to make a comprehensive inquiry into matters affecting labour, both in non-seasonal and seasonal industries and to make recommendations. This inquiry will, however, take some time. Meanwhile it was felt that some immediate relief to labour in

* Originally, Mr. R. S. Bakhle, M.L.C. (Bombay) was appointed. As he was unable to join, later in 1947, Mr. R. S. Nimbkar was appointed. We have, therefore, substituted Mr. Nimbkar's name.

the sugar industry during the current cane-crushing season is necessary and a committee was appointed with the following terms of reference:

(1) Is it desirable to prescribe any minimum rate of wages for labour in sugar factories of the United Provinces and Bihar? If so, what should such rates be?

(2) Should dearfood allowance, if any, be paid to labour in those sugar factories over and above the minimum wages? If so, what should the rate be?

(3) Should these sugar factories be required to pay any bonus to their workers in the coming season? If so, on what basis should it be calculated?

The Committee consisted of—

(1) Mr. K. B. Bhatia, O.B.E., I.C.S., Secretary to Government, United Provinces, Agriculture Department Lucknow	*Chairman.*
(2) Mr. D. R. Narang, M.B.E., M.L.C., Sugar Factory, Basti (3) Shri Kashi Nath Pandey, General Secretary, Chini Mill Mazdoor Federation, Gorakhpur (4) Mr. S. C. Chaudhri, General Manager, Pachrukhi Mills, District Saran, Bihar (5) Shri Basavan Sinha, representing workers of sugar factories in Bihar (nominated by the Bihar Government) (6) Cane Commissioner, Bihar	*Members.*
(7) Cane Commissioner, United Provinces	*Member and Secretary.*

3. The report of the Committee has been received and considered by the Government of the United Provinces. It agrees generally with the conclusions reached by the Committee. It agrees in particular that, at present, and in a single industry it is possible only to fix a total wage without breaking it up into components of a basic wage and a dearness allowance. The United Provinces Government accordingly proposes to request sugar factories in the province immediately to give effect to the wage increases recommended by the Committee in respect of prevailing wages up to Rs. 50 (with marginal adjustments up to Rs. 61). Such increases will have effect from the beginning of the current crushing season. The wage increases recommended by the Committee in the higher wage categories and the question of a retaining fee for the off-season will have to be considered in the light of the probable effect on sugar prices. These two matters will, however, be sympathetically considered and a decision taken at an early date. As regards the question of bonus for the current season the Committee has accepted the principle that a bonus should be paid on profits. The cane-crushing season is now well-advanced and at least the trend as regards the length of the season, the recovery and other factors can now be assessed. In the light of these data and of past practice in the matter of the payment of bonus, the Committee is now being requested to lay down the basis on which bonus is to be paid.

4. The Nimbkar Committee will no doubt inquire more fully into the problems of the sugar industry and make recommendations to the United Provinces Government in due course.

5. The Government of the United Provinces desires to thank the members of the Committee for their valuable report which has been prepared with expedition and which will help in meeting at least to some extent, the grievances of labour in this seasonal industry.

ORDER—Ordered that a copy of this resolution be forwarded to the members of the Committee for their information.

Ordered also that a copy of this resolution be sent to the Director of Industries, the Chairman of Joint Sugar Commission, United Provinces and Bihar, the Cane Commissioner, United Provinces, and the Labour Commissioner, United Provinces.

Ordered also that a copy be sent to all Commissioners of Divisions, all district officers, all vacuum pan sugar factories in the United Provinces, the Indian Sugar Syndicate, Cawnpore, the Indian Sugar Mills' Association, Calcutta, the Sugar Producers' Association, Cawnpore, the Chini Mill Mazdoor Federation, Gorakhpur, and the Trade Union Congress, United Provinces Branch, Cawnpore.

GOVERNMENT OF THE UNITED PROVINCES

Industries, Labour and Excise Department

No. 1075 (L) /XVIII

Lucknow, dated 7th February 1947

RESOLUTION

Read—

1. Government resolution No. 715 (L) /XVIII, dated January 24, 1947, on the report of the Sugar Factories Labour (Wages) Inquiry Committee, United Provinces and Bihar, published in *United Provinces Gazette Extraordinary,* dated January 24, 1947.

2. The supplementary report of the Sugar Factories Labour (Wages) Inquiry Committee, United Provinces and Bihar on the question of bonus for the current season.

After consideration of the papers above referred to, the United Provinces Government is of opinion that the wage increases in the wage categories above Rs. 50 (upto Rs. 300), which have been recommended by the Sugar Factories Labour (Wages) Enquiry Committee, United Provinces and Bihar, are also reasonable and do not add materially to the cost of production of sugar. Government is also of opinion that the recommendation of the Committee in its supplementary report as regards bonus for the current crushing season is fair and equitable. Government accordingly proposes to request all vacuum-pan factories in the Province to give effect in full to the recommendations of the Committee in respect of wage increases, with marginal adjustments

between Rs. 201 and 220 and also between Rs. 300 and Rs. 322-8. The wage increases shall take effect from the beginning of the current crushing season. It is intended that sugar factories shall be subsidised for meeting the increase in their wage bill as a result of the implementation of the recommendations of the Committee. Government also proposes to request vacuum-pan factories to pay bonus to all their employees aggregating to not less than 25 per cent of the profits left after paying taxes (but not after deducting any amounts for reserves) at the end of the present crushing season. Labour's share in the profits of each concern shall be so distributed among the employees of the concern that each employee gets bonus in proportion to his total earnings in the crushing season. Government, however, wishes to make it clear that the manner or extent of the award of bonus during 1946-47 shall not form precedent for the future either for the employer or for labour; for, a principle of such general importance cannot be laid down on the findings of a specific short-term inquiry. The question of a fee during the off-season is more complicated and raises issues which require further careful consideration. Government has this matter under consideration and a decision will be announced in due course.

Order.—Ordered that a copy of this resolution be forwarded to the members of the Committee for their information.

Ordered also that a copy of this resolution be sent to the Director of Industries, the Chairman of the Joint Sugar Commission, United Provinces and Bihar, the Cane Commissioner, United Provinces, and the Labour Commissioner, United Provinces.

Ordered also that a copy be sent to all Commissioners of Divisions, all district officers, all vacuum-pan sugar factories in the United Provinces, the Indian Sugar Syndicate, Cawnpore, the Indian Sugar Mills' Association, Calcutta, the Sugar Producers' Association, Cawnpore, the United Provinces and Bihar Sugar Mill Workers' Federation, 11|39, Gwaltoli, Cawnpore; the Zila Chini Mill Mazdoor Federation. Gorakhpur, and the Trade Union Congress, United Provinces Branch, Cawnpore.

Ordered also that copies be sent to the Central Government and the Government of Bihar for information.

Ordered further that a copy of this resolution and the report of the Committee be published in the *United Provinces Gazette*.

Supplementary Report of the Sugar Factories Labour (Wages) Inquiry Committee, United Provinces and Bihar.

Government have referred back to us the question of bonus to be paid by the sugar factories to their employees on the working of the current crushing season. In their resolution on the report of the Committee regarding bonus it is stated as follows:

" As regards the question of bonus for the current season, the Committee has accepted the principle that a bonus should be paid on profits. The cane crushing season is now well advanced and at least the trend as regards the length of the season, recovery and other factors can now be assessed. In the light of this data and of past practice in the matter

of the payment of bonus, the Committee is now being requested to lay down the basis on which bonus is to be paid."

We have discussed this matter again today and we feel that Government have not fully appreciated the difficulties of laying down a formula which may be applicable to each factory. The amount of bonus which a factory can pay to its labour would depend entirely on its actual working in the season and even though a month of the crushing season is over, it is not possible to make any reliable estimate for each individual factory of the length of its season and recovery. For example, a factory which is fortunate enough to get a season longer than estimated for purposes of fixation of the sugar price may obtain larger profits and be in a position to declare proportionately larger bonus than another factory less fortunately placed. While in one factory the amount available for bonus may come to a month's salary, in another it may amount to only half a month's or even less. The past practice also is no guide. It has varied according to the circumstances of each factory in each season and according to the organization of labour which existed in its area. Besides these factors, the Committee also felt that the question of bonus is of a general nature applicable to other industries as much as to the sugar industry, and any recommendation that might be made by us for the sugar industry for this season may have its repercussions in other industries. This point of view was specially emphasised by the members representing the industry who were reluctant to make any definite recommendation which might be embarrassing to the Bakhle * Committee or the industry. We have therefore felt that it would have been better if the question of bonus would have been left to the decision of the Bakhle * Committee. As however Government have specifically referred this point back to the Committee, we can only suggest that a specified share in the profits should be distributed as bonus by the factories. We have carefully considered whether this share should be on the basis of gross profits, or whether it should be linked up in some way with the amount of dividend declared by an individual factory or whether in setting apart a share for bonus, a minimum return to the share-holder should be guaranteed and we have rejected all these alternatives, as we feel that there will be difficulty in applying them in individual cases. We also considered the possibility of pooling the profits of a group of factories to enable uniform bonus being distributed to the labour of that group, but did not consider this feasible under present circumstances. For the present the only practical method appears to be to specify a share of the profits after exclusion of taxes but not excluding the amount to be set apart for reserves. For the current season only and pending recommendations of the Bakhle * Committee we suggest that 25 per cent of such profits should be distributed. The amount available for bonus in a particular factory should be so distributed amongst all its employees that each employee gets bonus in proportion to his total monthly wage.

K. B. BHATIA, BASAWAN SINHA, D. R. NARANG, KASHI NATH PANDEY, S. C. CHAUDHRI, M. S. RAO, A. D. PANT.

---

* Now, substituted Nimbkar for Bakhle (See footnote on page 67).

We also attach herewith a short note on the conditions of labour in factories in Bihar during the year 1947.

A Note on Conditions of Labour in Sugar Factories in Bihar during the Year 1946-47

" There has been some improvement in conditions of labour employed in the sugar industry in Bihar since the publication of the report on the Bihar Labour Inquiry Committee in 1938.* About 6 or 7 trade unions existed in some sugar mills of the district of Saran before the advent of the Congress Ministry. Since then a large number of trade unions have been set up with different political affiliations, in the sugar mills. These newly started unions formulated sets of demands and put them up before the management concerned. Some of the demands were fulfilled. The employees of a few sugar mills set up rival unions to counteract the activities of the unions formed by workers. In some cases prominent workers of the trade unions were victimised by the management on one pretext or another. Recognition of the trade unions formed an important part of the demands of workers. The Government of Bihar referred the cases of recognition of four unions in the district of Saran for adjudication. Reinstatement of victimised workers was one of the issues of adjudication. The report of the adjudicator is still under the consideration of Government.

As a result of the recommendation of the U.P. and Bihar Sugar Factories Wages Inquiry Committee of 1946, minimum wage of an unskilled worker was raised to Rs. 36 inclusive of all allowances. All the sugar factories have implemented the recommendation of the Committee. The Committee also recommended the payment of off-sason allowance to skilled, semi-skilled and un-skilled workers at 50%, 25% and 10% respectively. The Government of Bihar have accepted this recommendation of the Committee. Off-season allowance at certain rate is paid to skilled workers by the Begg Sutherland group of sugar factories. The question of bonus was also referred to this Committee, known as the Bhatia Committee which has recommended the payment of a bonus amounting to 25% of the nét profit of the factory but this is still under the consideration of the Bihar Government. Fuel, Kerosene Oil, etc. were supplied to the workers at a concession rate in some of the sugar factories in Bihar. A few of the factories have withdrawn this concession since the award of the Bhatia Committee was published. Some of the sugar mills whose crushing days were shorter than the estimated days have discharged some of the permanent employees and some of them have been allowed compulsory leave. All the sugar mills have adopted standing orders framed by the Indian Sugar Mills Association. This has standardised conditions of labour such as recruitment, leave, etc. "

The recommendations of the Bhatia Committee, as accepted by the Government of U.P. were also implemented by the U.P. sugar factories.

Labour Inquiry in U.P. industries, 1947-48

A general enquiry into labour conditions of the industries in U.P. was instituted under the chairmanship of Mr. R. S. Nimbkar, in 1947.

* Mr. M. P. Gandhi was a member of this Committee. For details, see the 1941 Sugar Industry *Annual.*

Labour Strikes in Sugar Factories detrimental to Cultivators

Immediately after the installation of the popular ministries in the various provinces, labour has adopted a rather aggressive attitude, and instead of pressing its claims for conciliation, compromise, or arbitration, has resorted to sporadic strikes for achieving its ends. Bad enough as these labour strikes are in any perennial industry, in that they retard production, which we cannot afford at the present time in view of the great shortage of consumer goods, they are particularly harmful in the case of sugar factories which are seasonal and where there is little possibility of a recovery of production by working overtime or with a higher complement of labour at a later date, due to the fact that cane crushing is confined to a short period of only about 3 to 4 months in a year. What is more,—and this is a point of very great importance—a sudden strike in a sugar factory inflicts great injury to the cultivators of cane inasmuch as cane cut from the fields is on the way to the factories and if a strike is proceeding then, the cane cannot be consumed, and it deteriorates and perishes, and is a dead loss to the cultivators. Apart from this, if, as a result of a prolonged strike, the cane crushing is curtailed, it also results in serious loss to the cultivators of cane as their cane cannot be consumed in the factories and would have to be converted into other less profitable uses, or would have to be allowed to go waste.

Labour, therefore, has to be very careful in that there is in the case of this industry, another party, namely, the cultivators of cane—producers of perishable raw material—who stand to suffer a great deal for the sake of labour, whose interest and stake, compared to the interest of the cultivators, are small. There is all the more reason, therefore, for adoption of an attitude whereby, as far as possible, disputes should be settled by conciliatory methods instead of by resort to strikes. Generally speaking, it can be stated that labour has shown great impatience and little regard for the interests of the community as a whole.

There were strikes in as many as 25 factories in U.P. and Bihar and at several places strikes were somehow avoided due to the intervention of the Labour Commissioner. In any case, there was hardly any peace in the working of the industry and no less than 2,500 working hours were lost during the 1946-47 season. The Governments of U.P. and Bihar did take appropriate action to meet the demands of labour, and appointed Committees at the proper time to investigate into the labour conditions and to recommend increased amenities to labour. They have even implemented the reports of the Committee with the least possible delay and sometimes even without consulting the industry, in the interest of placating labour. The outbreak of strikes has resulted in some factories closing their season prematurely, thus affecting adversely the poor cultivators of cane also. In some cases strikes were avoided by concluding individual terms with labour, by appealing to Government for adjudication, and in still other cases by referring disputes to arbitration. In 1947 there were not less than 12 adjudication awards and 21 are yet to come. There have been 7 cases of individual terms and 5 cases of conciliation. Thus, there has been a bewildering variety of decisions, without any uniformity. In short, it can be stated

without exaggeration that there has been a chaotic mess in labour conditions and a great disparity in the action taken between factory and factory, let alone group and group. For instance, some awards enforced retainer wages during the off-season, although Government did not give any direction on the point. Bonuses have had to be paid in some cases in spite of losses.

At the Annual General Meeting of the Indian Sugar Syndicate held in April 1947, Mr. D. R. Narang, who was one of the members of the U.P. and Bihar Wages Inquiry Committee, made a plea for standardisation of labour amenities for all factories. He also referred with regret to the fact that due to lack of prompt assistance from the Government, various factories were affected by illegal strikes, and had to enter into all kinds of hasty negotiations in order to keep the seasonal industry working. He also referred to the fact that the competitive capacity of the U.P. and Bihar Factories was being impaired by imposing additional burdens on the industry. He pointed out that while they were prepared to provide more amenities to labour, they can do so only if suitable provision was made by them when computing sugar prices for the season. In spite of the concessions given to labour, there appeared to be no guarantee that there would be no strikes during the next season. He made an eloquent plea to Government to render suitable aid for preventing strikes, as otherwise working of factories would become very difficult.

Government of India's Subsidy to U.P. and Bihar Sugar Factories in 1947

As observed elsewhere, in order to implement the recommendations of the Wages Inquiry Committee, the Government of India had to subsidise sugar factories in U.P. and Bihar, for then alone they could meet the cost of increased wages and other facilities granted to labour during the 1946-47 season. The Government announced in the middle of 1947 that the U.P. and Bihar factories would be given a subsidy of 9 annas per maund of sugar produced by them, in the 1946-47 season, as otherwise they were unable to make this additional payment from the cost of manufacture allowed to them as computed in the beginning of the 1946-47 season. It is of interest to note that a sum of about 1 crore rupees will have to be paid by the Government of India for meeting the cost of increased wages and other concessions granted to labour in the case of the sugar industry in U.P. and Bihar, and they have done so out of the proceeds of the additional (temporary) excise duty, of Rs. 4-4-0 per maund imposed in October 1946, from which a revenue of about Rs. 1,80,00,000 has accrued.

We only wish to add that labour unrest will do incalculable harm to both the agricultural and industrial economy and we suggest that suitable steps should be taken to ensure industrial peace, so that production of sugar, which is needed in larger quantities, may not suffer. It should also be remembered that the sugar industry is completely controlled and therefore it is for the Government to decide what amenities should be provided to labour, and make suitable allowances for the same when fixing the controlled price of sugar. We also suggest that complete uniformity should be established among all factories in order to eliminate the possibility of further disputes.

Sugar Industry—A Big National Asset

A perusal of the previous pages will have shown beyond doubt that the Indian sugar industry is a big national asset to the country. The emergence of this industry through the war into a conspicuous major position is an event of world-wide importance. It is a pity that the production of sugar, which reached the high level of 12,16,000 tons in 1943-44, has fallen considerably to well below 10,00,000 tons. This has necessitated a severe curtailment of supplies, rationing, and consequently considerable inconvenience in the matter of an important article of diet to the millions in the country.

The Indian sugar industry, however, has a potential capacity for production of about 14,00,000 tons of sugar even with its present outfit, and looking to the present demand of sugar in the country, we feel that before long, the Union of India will have to expand the capacity to the level of 16,00,000 tons, leaving to the Pakistan Dominion the question of expansion of the industry in their area for production of about 2,85,000 tons of sugar required by them, as against the present *estimated production of about 30,000 tons in the factories in their area.* In the absence of proper facilities, they may import the sugar from other countries, like Cuba, Java, South America, etc.

Our consumption of sugar in relation to the present production works out to about 6 lbs. *per capita,* and if we are able to reach this target of 18,50,000 tons, it will be of the order of about 12 lbs. It will be of interest to note that the *per capita* consumption of sugar in the U.K. is 106 lbs., in U.S.A., 97 lbs., in Australia, 116 lbs., in Cuba, 88 lbs., in South Africa, 47 lbs. This shows that we are yet at a very low level of consumption, and if our standard of living and nutrition is to be improved, we have to make earnest efforts for increasing production of energising foods like sugar.

Increase in Sugar Consumption in last few Years

In the pre-war period the average annual consumption of sugar varied from 10½ to 11 lakhs tons. Various factors since then had increased the sugar mindedness of the people perceptibly. Due to the newly acquired tastes for urban ways of living of the war personnel on return to the country, a larger sugar consumption was bound to ensue and with the increased industrialisation of the country involving a great expansion in the number of industrial workers there was bound to be a large consumption of sugar in the immediate post-war period. The *per capita* consumption of sugar in India is still very low—only about 24 lbs. per head of which 18 lbs. are accounted for by gur and 6 lbs. by white sugar. It is being felt that in order to make national diet more satisfactory from the stand-point of nutrition, far-reaching changes in sugar production and consumption are necessary. The quantity of sugar per day, per adult, required in a balanced diet, it was estimated, was 2 ounces and if this quantity was to be assured, the *per capita* consumption of India in a year would be about 46 lbs. per adult. This means that consumption should increase by 84% in the post-war period. There were other directions in which consumption of sugar was estimated to go up, viz.: for large production of confectionery and for

various industries which used sugar as the chief raw material. The candy, confectionery and fruit preserving industries would also consume a large quantity of sugar. All told, it was expected that this would take up about 2 lakhs tons of sugar and then there was the possibility of exports. After considering all the data available on the subject it was stated that the quantiy of sugar varying between 16 to 18 lakhs of tons should be produced for catering for the internal market and for export trade.

There is no doubt that the Indian sugar industry, which has furnished a magnificient example of the success of the policy of protection, will rise to the occasion in the years to come and play a still more important role in the agricultural economy of the country. It is the duty of the National Government installed at the Centre to continue to give suitable encouragement for the development of this industry, in appreciation of the part played by it in supplying sugar at reasonable rates to the country during the war period, when there was no possibility of getting sugar from outside sources, and of its importance in the agricultural economy of the country.

Export possibilities of Indian Sugar

The Indian Sugar industry today is in an enviable position in that it has a guaranteed market for all the sugar it produces. Indeed, it is upto the industry to meet this demand by fully utilising its capacity, and if it is enabled with the necessary aid, to seize the opportunity now offered, it can establish for itself a permanent and enduring position in the post-war world sugar industry. Restriction on export of sugar has now been removed and there will be a large demand for Indian sugar in the Near and Middle East, Ceylon, Burma and other neighbouring countries including Pakistan, after March 1948, when the present standstill agreement is concluded. We hope that before long India will rank as an important sugar producing country of the world and be able to supply sugar not only for its own requirements but also to the neighbouring countries.

PART II

Chief Problems before the Sugar Industry and Scope for its Future Development

The question of supreme importance to the sugar industry at the present time is that of improvement in the cultivation of cane with a view to improving the yield of cane per acre and its quality, and reduction in the cost of its production. An intensive study of the agricultural conditions in India will point to the fact that India is largely a country of small peasants who follow the immemorial and traditional way of life. Agriculture in India cannot be an independent entity. Its development is part of the larger problem of rural development which must be tackled as a whole. For example, it is interdependent with industry, a sound expansion of which is indispensable to any comprehensive programme for the advancement of agriculture. Besides, in view of the wide diversities in India of climates and soils, and of cultivation practices in irrigated and rain-fed areas, the Provinces and States concerned will have to evolve detailed plans suited to their areas and their conditions. The two main objectives to be borne in mind, however, in any scheme of agricultural improvement in India are (1) abolition of the poverty of the cultivator, and (2) abolition of the poverty of the soil. For achieving these objectives, the first essential is to avoid various wastes which exist at the present time, e.g. waste of fertilising material, water and soil, which will have to be cut out, and these natural resources will have to be utilised fully.

It is well known that inadequacy of food in India has resulted in one-third of the population of India, or over 100 million people being underfed in normal times, and the quality of food consumed is very unsatisfactory and under-balanced. To achieve national sufficiency in human foodstuffs, it would be essential to have immediate targets of increased production in order to provide the nutritional requirements for a suitably balanced diet in minimum quantity for the 400 odd millions of India.

Another grim factor staring us in the face is the low level of average production per acre in the case of most crops, including sugarcane. Four-fifths of the total cultivated area depends partly on rainfall for the success of the crops. In much of the area rainfall is either precarious or badly distributed. Due to this, the cultivator is unable to turn his land to the best use. He manures his crops inadequately, and in most cases not at all. Bulk of the cultivators do not use the most improved and best varieties of seeds, and the standard of cultivation is also low. Pests and diseases of crops persist. Weeds also flourish uncontrolled, and in sloping lands the soil is eroded and carried away through failure to control rainfall and surface by bunding and other means. The above are some of the directions which need early attention to improve the cultivation of cane as also other crops, in order to increase production from the land.

Utilisation of Water Resources

Firstly, maximum use will have to be made of water supply by harnessing the water of rivers, construction of irrigation canals, lifting

of water by mechanical means, construction of minor irrigation works, proper utilisation of rain water by control of erosion, etc. It is stated on good authority that the maximum utilisation of all sources of water would increase production by 50 per cent.

Better Utilisation of Land

Lands also will have to be utilised to the best advantage and higher crop yields will have to be obtained by improved methods of manuring and use of better seeds, improvement of agricultural practices, and control of pests and diseases. Proper manuring has produced in the rice crop increased yields per acre varying from 20 per cent to 150 per cent and taking India as a whole, an average increase of 30 per cent will be well within practical achievement in respect of all crops.

By the use of improved varieties of seeds, artificial fertilisers, etc. increased yields per acre of 10 per cent to 15 per cent can be easily obtained. An addition of 5 per cent on an average can be made by giving protection to the crops in the field from the ravages of pests and diseases. Consolidation of holdings will also contribute greatly towards increased production.

Smaller Area can give Larger Quantity of Cane

Turning to the question of sugarcane, we find that roughly the area under sugarcane in India has been varying from 3½ to 4½ million acres, depending on prices of cane and gur in relation to all alternative crops and possible climatic conditions at the time of planting. *No other country in the world has an equal area under sugarcane.* The yield, however, is very small, the all-India yield only being 15 tons per acre as compared with over 50 tons in Java. There is thus scope for very great improvement in the yield of cane per acre in India. According to the Government sugarcane expert who carried out a survey of sugarcane research and development in 1945 it should be possible to increase the yield of cane to *800 mds.* per acre in the *U.P., Punjab and Bengal, 600 mds. per acre* in Bihar and *1,100 mds. per acre in the tropical areas within a period of 5 years.* There are many who feel that these estimates are on the lower side. The special officer appointed in 1943 by the Government of India, Dr. W. Burns, lately Agricultural Commissioner of the Government of India, to report on the technological possibilities of agricultural development in India stated that there was no doubt that the average yield of cane in India could be forced much higher than it was at present, particularly in areas where the climate was suitable. He estimated an average yield of about 40 tons per acre for the whole of India. It is apparent from this that the yield of sugarcane in India, as a whole, could be doubled at least, with proper development. In 1943-44, an area of 4 million acres produced 59 million tons of cane and if the Government sugarcane expert's estimate is accepted, the same area can produce 124 million tons of cane, within 5 years, provided all facilities are available. Thus there is a vast scope for future improvement in sugarcane yield in the country and under an improved and organised system of sugar cultivation, the present requirement of the industry of 52 to 60 million tons of sugarcane can be made from a very much smaller area of land than at present and it would be possible to divert large areas of land now under cane

to food crops in view of the great necessity of increasing food production in the country.

Apart from this, in white sugar production the major item is the cost of raw material, viz.: cane which is more than two-thirds of the total cost at present. Indeed, today it is as much as 70%. The cost of this raw material in India is, at present, very high and is not competitive with most of the other sugarcane countries of the world. The cost of cane can be brought down by increasing the present low acre yield which is almost the poorest in the world or by cheapening the cost of cultivation or by combination of both these means.

Detailed recommendations for increasing the acre yield and reducing the cost of cultivation have been made in this behalf and these deserve to be implemented at once by the Central Sugarcane Committee. The following defects require careful attention in this connection.

(1) Lack of permanent or even long-term reserved areas for the factories in U.P. and Bihar.

(2) Lack of systematic plan for the utilisation of the accumulative funds of the co-operative societies.

(3) Lack of concentrated attention to cane development work as compared to cane marketing work. (In U.P. the same staff does the work of development and marketing.)

A survey of the research carried on so far in the various provinces shows that agricultural improvement has so far not been appreciable and this is due largely to lack of team work, lack of adequate financial assistance and lack of economic organisation. For instance, liberal funds are not provided for translating the results of the research to the fields of cultivators.

Peculiarities of Indian Agriculture

India is a country of small cultivators who are proverbially poor and the agricultural organisation is on a peasant basis with small holdings, with a high degree of indebtedness, and absence of fuel which compels the peasant to use up most of his potential manurial resources. The cultivator needs liberal loans at the right time which he is not being given although there is little risk involved in doing so, particularly in the case of sugarcane cultivators who are in the factory zones. Besides, as is well-known, the farmer has not the facilities for extensive cultivation nor the means to purchase manures, etc. to force yields. The fact cannot be ignored that agriculture must be organised in units sufficiently large and of adequate financial strength to render the application of technical knowledge feasible in practice.

Permanent areas in factory zones would be a very suitable basis for all developmental work in future. The permanency of such areas would give security to the factories and ensure to them ample supplies of good cane. The improvements in the zones can be made in many directions but the following are suggested for careful consideration of the authorities.

(1) Irrigation with financing schemes for the provision of cheap water by construction of wells, tanks, tube wells, etc.

(2) Manure particularly for tracts where rainfall is adequate and irrigation is available. A proper manure distribution organisation in the zone will give a farmer an increased net profit from the higher yields of cane and will benefit the factory by an assured supply of fresh cane from areas concentrated near the factories.

(3) Improvement of land by removal of the causes that prevent the economic utilisation of particular areas.

(4) Establishment of seed nurseries at suitable centres for dissemination of approved seeds to the zonal farmers. This sowing and seed distribution will promote growing of early, medium and late varieties of canes according to a schedule. The Indian Central Sugarcane Committee has recently recognised the merit of one year ratoons and has recommended them as a rich source of early supply to factories. Only a few recognised varieties which have proved their worth in the zones should be taken up and their large-scale distribution arranged.

(5) Efforts should be made to introduce improved cultural practices.

(6) Provision should be made for improvement of communications by building suitable roads in factory areas to prevent deterioration of cane carried on 'kuchha' roads, particularly as rail-borne supplies from distant places are now being curtailed due to difficulties in railway transport.

(7) Provision should be made for a planned protection service with adequate supplies of insecticides and fungicides, etc.

(8) And, above all, it should be noted that no plan of agricultural improvement can be executed without suitable technical personnel. A serious effort, therefore, should be made to train suitable personnel for this purpose.

Development suggested by the Advisory Board in March 1944

In our *Annual* for 1945-46 we have referred to a Memorandum on the Development of Agriculture and Animal Husbandry in India prepared by the Advisory Board of the Imperial Council, which states that with the necessary stimulus for continuous effort on the part of the cultivator and adequate finance, it seems reasonable to conclude that an increment of 5 per cent in production within ten years should be possible of attainment, and still further improvement can also be envisaged.

Peculiarities of Sugarcane Growth in India

In regard to sugarcane, it is grown throughout India. There are two distinct belts, the Indo-Gangetic Alluvium, which grows mostly thin cane, and the peninsula in the south, where thick canes are the chief type. Pests grow in the winter months and there is no check to the pests. Sugarcane can be planted throughout the year. In the northern belt, though the soil is perhaps more fertile, the crop is subject to extreme heat and cold. Progress in the improvement of sugarcane is possible by (1) spreading of improved cane over the whole

sugarcane area (this has already been done—90 per cent already being under improved varieties now), (2) selection of varieties resistant of pests and diseases, and (3) substitution of varieties that are still better in performance than the ones now in use.

In his Report on the Technological Possibilities of Agricultural Development in India, 1941, Dr. Burns states that it is possible to increase the average yield of sugarcane throughout India considerably, and gives the following table which indicates the yield of cane which should not be difficult to obtain in India :—

Area	*Potential average yield of cane* *Tons.*	
North-West Frontier Province	30 to 35	
Punjab	40 to 45	
United Provinces	27 to 35	
Bihar	25 to 35	
Bengal	35 to 40	
Madras	45 to 55	
Bombay } Mysore }	45 to 55	for plant cane
	70 to 80	for adsali

The actual extreme yield of cane which it is possible to obtain anywhere in the world is theoretically 192 tons per acre and this has been approached in Hawaii with an yield of 185 tons. In India over 100 tons were actually obtained on three of the competing farms in Bombay-Deccan in 1934.

Chief Problem of Reducing Cost of Sugar and Sugarcane

Having given a general background of the agricultural conditions of India in relation to its chief crops, we will refer in the succeeding pages to the various practical directions in which cultivation of cane can be improved and cost of production of cane brought down, with a view to ensuring production of cheap sugar and gur in increased quantities for meeting our growing requirements in the years to come. As has been shown in the previous pages, we are on the threshold of a period of expansion, the war having ended two years ago. The Government of India, on a review of the growing requirements of sugar in the country, have fixed a target of production of 18,50,000 tons, as against the present actual production of about 10,00,000 tons. In the world's sugar economy, which will have to be reconstituted as a result of the emergence of new conditions after the second world war, India can easily take a top ranking place as producer of sugar, and far from meeting its own requirements of sugar, can cater for the requirements of other countries, particularly in its vicinity, which are starved of supplies of sugar owing to the destruction caused in the various sugar producing countries like Java, Formosa and Philippines, whose capacity has been considerably curtailed thereby. If, however, we are to be enabled to play this role of an exporter of sugar to other countries, it would be essential for us to consolidate our position and to reorganise

ourselves on modern lines with a view to effecting a suitable reduction in the cost of production of sugarcane and sugar by embarking upon short-term and also long-term plans of comprehensive research in cultivation all over the country.

Magnificent Role of Industry

By its magnificent contribution during the war period to the large demand of sugar both for military and civil needs, the Indian Sugar Industry has shown its remarkable powers of adjustability and resourcefulness. It is true that for the last few years production of sugar has gone down from the peak level of 1943-44, viz.: 12,16,400 tons, but that is due to domestic and temporary causes which can easily be remedied.

By its valuable contribution during the war period, the industry has proved its great utility and importance and entitled itself to special consideration in the future when plans for its further development will be executed. The prime necessity of the hour, as far as the industry is concerned, will be the replacement of the overworked and worn-out parts of the machinery and equipment by facilitating imports of the urgently needed items of machinery and other requisites, in order to ensure an uninterrupted, smooth and effective working of the industry in the future period. Plants and machinery will also have to be ordered from foreign countries for expansion of the present capacity. About 45 further units have been sanctioned by the Government of India during the last 3 years, and the bulk of the machinery required for these plants will have to be imported from abroad, which will mean an outlay of not less than 15 crores of rupees. We have no doubt that the Government of India will give suitable facilities in this behalf in order to achieve the target of increased production within the next decade. In this context, the fundamental need will be of bringing about a great improvement in the methods of cane cultivation, of introduction of early and late ripening varieties of cane in the vicinity of mills to enable factories to work for longer seasons of at least 5 to 6 months, augmenting transport facilities, and improving still further the technical efficiency in order to obtain higher recovery percentage of sugar. Encouragement will also have to be given to the utilisation of by-products like molasses and bagasse. Power Alcohol production needs immediate development. The concentration of the industry in the U.P. and Bihar was a great bottleneck in the war period for sometime owing to the lack of transport facilities. The only means of overcoming the transport difficulty and the high cost of freight and the handicap of over-concentration of mills in any particular area is the positive encouragement to establish more mills in other areas in accordance with the recommendations of the Sugar Panel and the Government of India who have recently (1947), allocated 25 more units in order to develop production of sugar in deficit areas all over the country. With the creation of Pakistan in August 1947, this development will have to be modified. (See page xl.)

The industry's chief problem at the present time is proper planning and dispersal all over the country.

We will now turn to the question of localisation of the industry.

Localisation of the Industry

The most suitable geographical region for the growth of sugarcane is the tropical, as is evident from the large concentration of the sugar factories in the Dutch East Indies. In India, however, the region which is responsible for 113 out of 166 factories, which gives employment to 75 per cent of the total labour force, and produces about 75% of the total sugar in the country, extends over the U.P. and Bihar, while the Provinces of Bombay and Madras, which may correctly be called tropical areas and which are ideally suited for sugar, have not developed the industry to the same extent. The average yield in terms of *raw sugar* per acre is as high as 6,700 lbs. in Madras, 5,700 lbs. in Bombay, as against 2,500 lbs. and 2,300 lbs. in U.P. and Bihar respectively. Not only is the quality of the cane in Bombay and Madras superior to that of U.P. and Bihar, but the sugar recovery is also higher in Bombay than in most parts of the country. There are other counteracting factors. The wide range of alternative cash crops—groundnuts, cotton, plantains, chillies, tobacco and paddy in Madras—and the higher overall cost of sugar manufacture in Madras and of cultivation in Bombay, and the absence of big blocks for sugarcane cultivation in Madras and Bombay account for the smaller number of sugar mills in these regions. U.P. and Bihar had the advantage of compact sugarcane areas and an early start when the industry was established in those regions, within the first two years of the grant of protection, and are now in a position to spare an exportable surplus after meeting local demands.

We suggest that except for some very special reasons like availability of large quantities of cane in suitable areas in the U.P. and Bihar, all future expansion of the industry must be in other parts of the country, so that the development of the industry would be more balanced, advantages well-distributed, and over-concentration of the industry in one area reduced.

Sugarcane—Necessity of Improvement in Cultivation and in Yield per Acre

The general conditions of sugar manufacture in India are peculiar and have hardly any parallel elsewhere. Mills in India, except in Bombay Presidency, do not generally produce the raw material, viz.: the cane as they do in Java and other countries from their own extensive plantations round about the factories but they depend on a large number of agriculturists with small holdings of land independent of each other and working without any definite system, industrious but lacking in capital, in resources and in scientific knowledge and consequently incapable, in the absence of any guidance either from the Government Departments or from the factory owners of making use of modern, up-to-date and efficient methods of cane-cultivation, crop-rotation, manuring, etc. *This is a very important factor which has to be borne in mind* constantly in a study of the problems of sugarcane and of agricultural improvements in India. In devising various methods for improved cultivation of sugarcane varieties, care should be taken to see that the small cultivators do really understand and practice the methods and actually benefit by them. Improvements in the cultivation of cane should be

planned, with a view to bring down the cost of cultivation, and to cheapen supplies of cane to factories.

Extension of Cane Area or Improvement?

A glance at the recent satistics of the area under cane cultivation in relation to the requirements of sugar and gur in India will indicate that the area under cane has shown some fall during the last five years due to the effects of the "Grow More Food" campaign of the Government of India, and the fixation of lower miñimum prices for cane, the returns from which were not as remunerative as from other crops. Even so, the present acreage under cane, namely, 41,00,000 acres in 1946-47 (which is just about 2 per cent of the total cultivable area in India and approximately 34 per cent of the sugarcane area in the world) is sufficient for giving us the quantity of sugar that we need in the country for our internal consumption, now and for some time to come. It does not appear to us necessary to increase the acreage under cane, but it is of vital importance that the yield per acre should be improved with a view to lowering the cost of cultivation.

Encouragement of High Sucrose Cane or Heavy Yielding Varieties?

An important question affecting the sugar industry and the agricultural economy of the cane-grower in India at the present time has arisen, namely, whether cultivators should be encouraged to grow only such canes as possess high sucrose but are moderate in yield of cane per acre, or whether they should be encouraged to cultivate heavy yielding varieties even though they may be only moderate in sucrose content.*

It is necessary to remember that high yield of cane and high sucrose seldom go together and generally speaking, heavy yielding varieties which are now being cultivated by growers happen to be more satisfactory agriculturally as compared with high sucrose early varieties now available in the country. This is a vital question in view of the fact that in certain tracts no choice is being left with the cane-grower but to cultivate rather low yielding varieties because they have high sucrose, while in other tracts high yielding varieties are being encouraged in spite of their possessing rather poor sucrose. After a careful consideration of the entire question we are inclined to the view that as in other progressive cane-growing countries, *our goal should be to get more sugar per acre in the larger interests of the country.* It is well known that the minimum price of cane being fixed in India at a flat rate, the cane-grower suffers a lot in his income if the cane which he grows is a low yielder, e.g. Co. 313 in North Bihar, and he gets no premium for the growth of cane of high sucrose, which is generally poorer in yield. In Hawaii, more attention is paid to increase in yield of cane in order to get more sugar per acre, and during the last 15 years the yield of sugar per acre has gone up in Hawaii from 4.25 tons per acre by increasing the cane yields per acre, to 6.49 tons of sugar in 1936-37, in spite of a fall in recovery from 11.77% to 10.46%, due to the lower sucrose content of cane, between 1922-23 and 1936-37.

* This question has been discussed in detail in the "Report on the Survey of Sugarcane Research in India" by Mr. N. L. Dutt, M.Sc., prepared for the Imperial Council of Agricultural Research in 1946.

Queensland, on the other hand, concentrates more on the increase of quality in order to get more sugar per acre. A comparison of the relative advantages derived from the above two methods of approach in Hawaii and Queensland is interesting. Hawaii concentrated on improvement in the yield of cane and got an increase of 53 per cent in total sugar per acre, while Queensland concentrated on improvement of the recovery and got an increase of only 23 per cent in total sugar per acre (2.44 tons of sugar per acre in 1924, as compared with 3.10 tons of sugar per acre in 1938 in Queensland). Apart from the obvious advantages of depending upon an increase in the yield of cane as a means of increasing the total sugar per acre, it might be said that there is a limit to the increase in the quality of cane, as also in the increase in the technical efficiency of factories. An increase in yield doubtless has its limits, too, but as we observed in a previous issue of our *Annual* (*vide* p. 74 of 1944 *Annual*), there are great potentialities of increase in the yield of cane per acre in India, from 15 tons to 30-55 tons per acre in India. That is not to say that our quality of cane does not need improvement. It does, and very much. It would appear, however, that to achieve our aim of getting more sugar per acre, it would be more profitable to concentrate on improving the yield of cane per acre which admits of great possibilities, without sacrificing the quality of cane. The example of Hawaii, it seems to us, is well worth emulating. It is well known that the average growth of cane in India was only about 10 tons per acre before the advent of the Co. cane in 1918. With the spread of the Co. cane the yield has increased by about 50 per cent, *i.e. from 10 to 15 tons per acre.* The yield of cane in India, however, is yet very low as compared with Egypt and South Africa (and Java of course). These two former countries, which, like India (i.e. for over 80% of its cane area), are situated outside the tropics, grow the thin-medium canes. In 1936-37, the yield of cane per acre in Egypt was 30 tons, in South Africa 22 tons, while in India it was 14 tons. In 1936-37, the yield of sugar per acre in Egypt was 3.0 tons, in South Africa 2.43 tons, while in India it was 1.39 tons, *just about the lowest of all countries in the world.* The maximum yield of cane per acre in Java was 56 tons, and the yield of sugar per acre, 6.44 tons in 1936-37. It must also be remembered that the quality of cane in India is about the lowest as compared to the other countries.

Should Cane Prices be fixed on Weight, or should they vary according to Varieties and Sucrose Contents?

So far the universal system adopted for payment of cane in India has been of payment at a flat rate per maund or ton, irrespective of the sucrose content of the cane, and the period of the season in which the cane is offered for supply. The Provincial Governments and the States which have fixed prices of cane, have done so on a flat basis, and the cane-growers have not had any premium given to them for supply of cane of higher sucrose content. Nor has any deduction been made for supply of cane of very low sucrose content. The interest of the factory of course lies in getting the maximum sugar out of a ton of cane, while the interest of the ryot lies in getting the maximum tonnage per acre of land. The result is that with the heavy yielding cane of low sucrose, the factory loses and the grower gains, while with the high sucrose cane, which is usually a moderate yielder, the position regarding

profits is the reverse. *It is obvious, therefore, that there is a clash of interest between the grower and the factory-owner in India because cane is paid according to weight and not on sucrose basis, as is done in almost all the cane-growing countries.* The interests of both parties, we suggest, should be reconciled in the larger interests of the country. The whole basis should be more sugar per acre as suggested before. If the industry is to thrive, a prolongation of the crushing season is absolutely essential and instead of the factories working 80-90 or 100 days in a season, they should be able to work at least 150 days in a year, in which case there should be sufficient supply of early maturing cane to enable factories to start crushing early, and late maturing cane, to enable them to work till late in the season. It is well known that early maturing canes are often low yielders, as a result of which the cane-grower is disinclined to cultivate them for fear of a poor overall return from his crop. It seems also true that the stage has not yet been reached in India when payment of cane can be universally made on sucrose basis, due to the astoundingly large number of small cultivators with whom factories have to deal, as also their illiteracy. At the same time it is easy to see that the cultivator would not be averse to take up the growing of high sucrose cane in preference to low yielding varieties, if he is paid a premium over the average rate fixed for cane, for such superior varieties. Some incentive should be afforded to him to grow low yielding cane, with a higher sucrose. High yielding cane ripens actually towards the middle of the season, that is, January-February, with the result that when this cane is crushed in November-December, it gives a low recovery because of lack of maturity. It seems, therefore, desirable in the larger national interests of the country to consider the practicability of the adoption at an early date, of a system of fixation of cane prices, according to varieties of cane and the month in which they are offered, irrespective of the difficulties that are inherent in its adoption at present. This point has been discussed in great detail by Mr. N. L. Dutt in his Report referred to in the preceding paragraphs, and we invite the immediate attention of the various Provincial Governments and the Indian Central Sugarcane Committee to this important aspect of the question in order that the industry in the country may thrive as a result of a more advantageous utilisation of the cane crop in its optimum state all throughout the season.

Principal Agricultural Problems of the Industry

We will now discuss the principal agricultural problems of the industry in India at the present time. These are (1) increase of yield of cane per acre, (2) improvement in the quality of cane, and (3) reduction in the cost of cultivation of cane. The first point that naturally crops up in regard to any consideration of the question of increasing the yield of cane per acre is whether we can ever aspire in India to reach the yields of cane obtainable in Hawaii or Java. In this context it should be noted that Hawaii and Java are situated in the tropical belt, while 85% of the cane-growing tract in India is in the sub-tropical region, and this is no mean handicap of nature. Apart from the climatic limitations, there are other serious handicaps peculiar to this country, e.g. the prevailing system of land tenure, the fragmented and uneconomic holdings of land, illiteracy of the cultivators, uncertainty of rainfall,

lack of proper irrigation facilities over a large part of the cane area, insufficiency of manure, lack of knowledge of crop rotation, etc. At the same time we are aware that with adequate irrigation facilities and supply of plentiful manure of suitable variety, yields of 60 tons and more have been obtained in the sub-tropical belt of Northern India by certain Government Research Stations and also by certain progressive cane-growers. In Bombay, for instance, in 1935-36 yields of cane of over 100 tons per acre were obtained when a competition was organised. It does not seem to be unlikely that if a generous provision is made for research work and if cane development is organised on sound lines, an average yield of about 800 maunds per acre can be obtained over the whole of U.P., Punjab and Bengal (as against 350 to 400 maunds per acre at present). The average yield in Bihar, which is mostly a rain-fed area, can also be increased to about 600 maunds per acre, while in tropical India the yield can be increased to 1,100 maunds per acre. If such development is vigorously continued, it will be possible to get higher yields still during the next decade.

In accordance with the expectation of Mr. N. L. Dutt, who has done excellent research work on sugarcane in Coimbatore under the guidance of Sir T. S. Venkataraman, the reputed scientist who has revolutionised the sugarcane industry of the country by the wonderful improvements made in respect of the quality of cane, it should not be impossible to obtain an yield of 1,100 maunds per acre in the sub-tropical areas and 1,400 maunds per acre in the tropical areas. This indicates what progress yet remains to be achieved.

Dr. Burns' Target for Cane Yield—50 Tons per Acre

In his Report on the "Technical Possibilities of Agricultural Development in India", published in 1941, Dr. Burns, formerly Agricultural Commissioner to the Government of India, examined the question of improvement of the yields of various agricultural commodities. In so far as growth of cane was concerned, he also expressed the opinion that it could be increased from the present average of 15 tons to 30-55 tons per acre by the employment of available resources in the most useful way. The methods suggested for reaching the increased target were better manures, improved varieties of seeds and implements, control of crop rotation, more scientific cultivation and maximum utilisation of available fertilisers, water, labour, soil and livestock.

Variation in Prices of Different Qualities of Cane suggested

In regard to the second point, namely, improvement in the quality of cane, it is necessary to ensure that the sucrose content of cane is fairly uniform throughout the crushing season, and not very low at the beginning and towards the end of the season, as is the case at present. The ratoons and early varieties will generally need to be crushed in the early part of the season. The suggestion made for offering normal prices for these varieties, and for offering much lower prices for the mid-season cane in order to dissuade cultivators from offering unripe mid-season cane in the early part of the crushing season deserves serious consideration of the Provincial Governments. From January onwards normal prices should be offered for the mid-season varieties,

and in order to induce the cultivators for keeping late crushing cane in the fields for crushing towards the end of the season, a slightly higher price may be offered.

Increase in Yield of Tonnage and Cheapening Cost by Manuring, Ratooning, etc.

In regard to the third point, namely, reduction of the cost of cultivation, it should be noted that any improvement in the yield of tonnage of cane will certainly bring about a fall in the cost of production. Other methods suggested for consideration are: (1) Manual labour now largely in use for the entire agricultural operations should be substituted by labour-saving implements drawn by bullocks, (2) manures should be supplied at the proper time and in proper proportion to increase their efficiency, and (3) perhaps the most important way in which the cost of cultivation could be reduced is by resorting to the practice of *ratooning* and it has been seriously recommended that the research stations should devote greater attention to this aspect of the question in the years to come.

Increase in Cane Acreage not necessary—Palm Sugar Possibilities should be explored

We would also invite the attention of the readers to the observations made by Mr. N. L. Dutt in his Report referred to above, wherein he has recommended areas where sugarcane cultivation can be encouraged advantageously. After considering the various regions, namely, the U.P. and Bihar, Punjab, Bengal, N.-W.F.P., Bombay, Madras, etc. wherein there are more possibilities of encouraging sugarcane cultivation in some areas, he comes to the conclusion that as the average yields per acre in India are still very low, a great scope exists for the improvement of yield before thinking of increasing the area under cane in any tract. As we observed before, we feel that it will be possible for India to produce all the sugar it needs from its present crop if it is properly utilised, by progressive expansion in the yield and quality of cane, and it may not be necessary to increase the area under cane, which can safely be left for the cultivation of food-crops of which a very serious shortage has been noticed in the country of late. Indeed, if the yield per acre is raised appreciably and before long, and if the palm-trees * in the country are tapped for making sugar, it seems to us that it would also be possible to release some of the present land under cane for the growth of food-crops. We suggest an early investigation into this problem.

Diseases in Cane and Pests must be eradicated

In order to improve the yield as well as the quality of sugarcane it is imperative to eradicate the diseases in cane and pests. It is a matter of common knowledge that in respect of yield of cane per acre, its sucrose-content or average percentage of recovery of sugar from cane, we in India are still behind many other sugar producing countries,

* Vide Appendix III to "Problems of Sugar Industry in India" by M. P. Gandhi, with a foreword by Sir Purshotamdas Thakurdas, 1946; 425 pages, for details in regard to this matter.

viz.: Java, Cuba, Hawaii and the Philippines. Unless we are able in a short time to effect considerable improvements in this direction, with the aid of organised research, it will not be possible for us to stand the vigorous competition of other advanced sugar producing countries in the years to come. Whether it is due to plantation of cane without a scientific system of rotation of the cane crop, absence of fertilisers and manure, lack of plentiful water supply either through irrigational canals or tube-wells, and diseases and pests—or a combination of any of the above factors—the fact is that our cane crop at present is poor both in respect of quality and yield per acre. *The direct consequences of this are high cost of production of cane, low yield and sucrose-content of cane, and a great recurring national loss, valued at millions of rupees to the agricultural community in the country.*

Great damage is occasionally done by insect pests and diseases in various Provinces.* The sugarcane crop is easily susceptible to diseases. In some years the harm caused by pests and crop diseases is so widespread that it materially alters the fortunes of the cultivators and results in considerable reduction in output of sugar and yield of recovery percentage. This should be avoided as far as possible, by cultivating proper cane, and by organised research to combat these pests.

Education of Cultivators by Demonstration of Improved Methods

Apart from tackling by special means the problem of pests and diseases, there is a great necessity of undertaking other measures which would bring home to the cultivator the desirability of effecting improvements in the conditions of cultivation of cane. The average cultivator in India is hardly aware of the latest improved methods of cultivation or manuring or rotation of crops, or selection of suitable varieties to the soil, and the introduction of cross-breeding and hybridisation. He carries on in the traditional style from year to year unmindful of the revolutionary developments in other lands and unaware of the possibilities of improving his lot. Industrious but having no capital and implements, he works hard but the results have been poor compared with other countries. Improvement in quality of cane grown on the fields and reduction in the costs of cane cultivation are two important problems that face the agriculturist, the Government and the industry at present. In view of its importance it is the duty of the Government to devise suitable means of imparting instruction in modern methods of cultivation to the ryot and to make available to him the fruits of organised research with a view to improve his economic condition, and to establish the industry on a sound and firm basis. Although it is satisfactory to note the work done in this connection by the Sugarcane Research Stations at Coimbatore, Shahjahanpur, Muzaffarnagar, Karnal, Padegaon in the Deccan Canal area, Pusa, Dacca, Bangalore, Hyderabad and many other places and although improvements have been effected in quality of cane grown in various Provinces, we feel that the time has definitely come when we should redouble our efforts to establish more intimate contact with the cane-cultivator and to initiate him into modern methods of better farming by actual demonstration. For this purpose it is essen-

* Red Rot disease of sugarcane appeared in the U.P. in epidemic form, and "Wilt" in Bihar, in 1946-47.

tial to establish a series of demonstration farms and nurseries in all cane-growing Provinces and Districts in order that they may devote their attention to the propagation of cane of higher tonnage of cane per acre, of early and late-ripening varieties for extending the cane-crushing season, of increasing the yields by suitable crop-rotation, provision of a suitable supply of water for the crop, early detection and eradication of crop pests, etc. These demonstration farms and centres should serve as the arteries from where trained agriculturists would tour round the surrounding districts in order to show or demonstrate efficient methods of cultivation and manuring suitable to the soil in the various places and would also distribute good and improved seed amongst the cultivators. An important function of these farms would be to conduct researches as to the easy methods of combating cane diseases and pests. In addition to this, the Provincial Governments should also undertake other allied work of effecting improvement by educating the ryot in the use of irrigation water, by extension of the canal system and by affording necessary assistance in tapping subterranean sources of supply of water, by offering supply of manure for his impoverished land, etc.

Improvements in Cane Crop essential

The immediate necessities for the cane crop of India are (1) improvements aimed at lowering the cost of cultivation by increasing the tonnage per acre which in turn will give a better return to the cultivator, and (2) raising the quality, e.g. by producing varieties suited to various localities, having higher sucrose-content and greater resistance to diseases and pests so that they may command higher price from the sugar manufacturers.* The work of improvement on an organised scale should be undertaken in areas adjoining the sugar mills and such area gradually extended. The development of reserved and gate-areas of the sugar mills are likely to give immediate benefit both to the manufacturer and to the cane-grower. The ultimate success of the sugar industry hinges upon its ability to produce better and higher yields of sugarcane per acre since sugarcane forms the raw material of the industry and accounts for over 52 per cent of the cost of production. Improvements achieved in this field will be of lasting value and result in the cheapening of the prices of sugar. The extension of the present cane-crushing season of about 4 months to at least 6 to 7 months in the year by encouraging and promoting the growth of early and late ripening varieties of cane suitable to the climatic conditions of the various areas of production, will be of considerable help.

Valuable Educational Effect of Cane-crop

Although the total area under cane is now less than 4 million acres, out of 277 million acres cultivated in India, the importance of the sugarcane crop is out of all proportion to the small area which it occupies. It has a valuable educational effect on the cultivator.

* It is a pity that yet no suitable method has been evolved whereby the cultivator of superior quality of cane would get a premium, over the fixed minimum price of cane.

Sir John Russell, in his Report on the work of the Imperial Council of Agricultural Research, in applying science to crop-production in India (1937), observed as follows: " The cultivator learns the advantages of modern varieties of crops, of fertilisers, of proper cultivation; the need to watch for plant diseases and to seek advice when he is in difficulties. The Agricultural Officer will have more chance of coming in touch with the sugarcane grower than he will with an ordinary small cultivator."

Imperial Council's Valuable Work for Sugar Industry taken up by the Indian Central Sugarcane Committee from 1944

The Imperial Council of Agricultural Research has done very valuable work in the field of development of the sugarcane crop. The programme of the Imperial Council's work was (*a*) the selection of canes better suited to the important cane-growing districts than the existing local varieties, and improvement of their cultivation, (*b*) improvement of local methods of making gur, and (*c*) development of advisory and research services for the factories. Investigations on cane breeding were made with considerable success at Coimbatore by Sir T. S. Venkataraman, and since his retirement in 1943, this work is being carried on by Mr. N. L. Dutt who is in charge of the Coimbatore Research Station. Mr. Dutt's Report on the Survey of Sugarcane Research, 1946, to which we have made a reference elsewhere, is well worth a detailed study in view of the excellent suggestions made therein in regard to various matters appertaining to the development of cane.

The work of the Imperial Council, in so far as it appertains to sugar and sugarcane, has been taken over by the Indian Central Sugarcane Committee, established in 1944. For its functions, personnel, etc. we would invite a reference to the earlier portion of this *Annual* entitled " Indian Sugar Industry at a Glance "

Resume of Work of the Indian Central Sugarcane Committee in 1946-47

In our *Annual* for 1945-46, we have given a resume of the work of the Indian Central Sugarcane Committee from November 1944 to 31st March 1946. We are now giving a short note in regard to the work of the Sugarcane Committee during 1946-47.

The fifth meeting of the Committee was held at Delhi on the 31st October 1946. Matters relating to agricultural and technological research now in progress and financed by the Committee for the acceleration of production of sugar, khandsari sugar and gur, were discussed. New five-year schemes of agricultural research were also adopted. Among those is the five-year scheme for the establishment of a Cane Testing Station in Bilaspur in C.P. and Berar. At present C.P. and Berar has little cane cultivation, but its potentialities, by the introduction of suitable varieties of improved cane, deserve attention. A five-year scheme was also adopted for the conversion of the existing Agricultural Research Station at Anakapalle in Madras into a Sugarcane Research Station. A scheme was also approved for Orissa and N.-W.F.P., and the five-year scheme put up by the Bihar Government was sanctioned for the investigation of " wilt ", a fungal disease spreading in some parts of

Bihar, reported to be more severe in its effects than the major disease —red rot. The incidence of this disease in parts of North Bihar was believed to be varying from 1% to 5% in general, and upto 20% in certain varieties of cane, thus reducing significantly the yield of sugarcane.

On the Sugar Technological side, the Committee agreed to extend the existing sugar candy research scheme at Ravalgaon (Bombay Presidency) for a further period of 3 years, for the purpose of fostering industries subsidiary to the sugar industry, such as candy and confectionery manufacture, and to the continuance of the Sugar Research Testing Station at Bilari in U.P., pending the establishment of a permanent section for this work by the Imperial Institute of Sugar Technology, when it is started at Lucknow.

In order to centralise sugarcane and sugar research work in one central authority, it was decided to establish a Twin Agricultural Research Station-cum-Institute of Sugar Technology for teaching and research at a suitable site at Lucknow, and to strengthen the staff of the Indian Central Sugarcane Committee for the purpose of scrutinising carefully all the research schemes put up to the Committee for consideration. These two decisions have a very important bearing on the development of the sugarcane and sugar industry of India. It was also decided to publish for general information and for the guidance of cane growers, a comprehensive bulletin describing in popular languages the important varieties of sugarcane evolved at Coimbatore, as well as the more popular cane indigenous to or acclimatised in India. A note was also prepared giving directions for tackling major sugarcane diseases.

Central Sugarcane Committee favours Continuance of Protection for Some Years

The annual meetings of the Indian Central Sugarcane Committee, as well as its various sub-committees, were held at New Delhi on the 6th and 7th February 1947, under the Presidentship of Sir Datar Singh. The *personnel* of the Committee is given in the "Sugar Industry at a Glance". At these meetings it was decided to forward a memorandum to the Tariff Board pointing out that the consensus of opinion of the Committee was that the protective duty on sugar should continue for a long time to come, in the interest of development of the industry. It also pointed out that sugar was still in short supply and due to the advent of the second world war the industry has not been able to take advantage of the protection and derive such benefit as was expected. The Committee also stated that in the interests of the farmers and the country as a whole, production was as essential during peace-time as in the war-time.

The Committee decided to take over from the War Department the Bhudruk Military Farm at Lucknow for establishing its own Central Sugarcane Research-cum-Technological Institute. The Government of India have earmarked a sum of Rs. 50,00,000 for the construction of this Institute out of the proceeds of the additional temporary sugar excise duty of 1943-44, and also placed at its disposal a sum of

Rs. 75,00,000 for allocation to the Provinces to initiate five-year schemes for the development of the sugarcane industry.

The Annual Report of the Indian Central Sugarcane Committee for the year 1945-46 has recommended that the immediate objective of the development planning should be to increase the present acre yields of sugarcane (particularly in gur areas), for the country as a whole by at least 25 per cent in the first instance. It is believed that intensive work on cane development on a co-operative basis should be of use in obtaining increased acre yields. Improvements to be undertaken by the cane development agencies would naturally vary with local conditions and it will be for each cane development zone to determine what items should be given priority. For cane-growing areas as a whole, however, the Committee has directed that the following items need immediate attention :—

(*a*) ample provision of cheap water for irrigation purposes ;

(*b*) adequate provision of manures of the right type ;

(*c*) provision for distribution of disease-free seeds of suitable varieties of cane ;

(*d*) provision of implements suited to the requirements of the soil in different tracts ; and

(*e*) provision of sufficient watch and ward service for protection of crops against pests and diseases.

It has also stressed that material and money will not achieve any improvement, if suitable technical personnel is not provided to carry the results of research to the actual sugarcane grower.

The Indian Central Sugarcane Committee decided to utilise the grant of Rs. 75,00,000 made by the Government of India for development schemes of different provinces, and allotments were made to the various provinces on a *pro rata* basis of the sugarcane area in 1944-45, modified to give weight in the light of the present state of development or of the need for fresh development in particular tracts. The Government of India accepted the basis of allocation proposed by the Planning Sub-Committee and suggested to the Central Sugarcane Committee that the provinces should be asked to prepare revised schemes with the monetary allocations noted below :

	Rs.
United Provinces ..	30,00,000
Punjab ..	9,37,500
Bihar ..	12,00,000
Orissa ..	75,000
Bengal ..	9,37,500
Madras ..	5,62,500
Bombay ..	5,62,500
N.-W.F.P. ..	1,50,000
C.P. ..	37,500
Assam ..	37,500
Total	75,00,000

These schemes were to be given effect to over a period of 5 years. It was also decided that the improvements indicated above should be made available to the various provinces on condition that the various Provincial Governments themselves undertook to bear ordinarily one-half of the total expenditure on each scheme. Government also decided, on the recommendation of the Planning Sub-Committee, that no part of this sum should be allotted either for the construction or improvement of roads, or for research purposes. Government also agreed that as the Indian States were not contributing to the proceeds of the Special Temporary Sugar Excise Duty, no financial assistance out of this sum should be given to the Indian States for any scheme. The Government of India also observed in the course of their letter dated the 14th January 1947, that majority of the provincial schemes would have to be revised in the light of this decision and directed that the various provinces should be informed while preparing their revised schemes, to give special attention to the essential items of development of work given below:

(i) Provision of adequate irrigation facilities for the sugarcane areas;

(ii) Establishment of seed nurseries to provide adequate quantities of disease-free seed of suitable varieties, including a seed multiplication programme indicating the area proposed to be covered with approved varieties within a specified period;

(iii) Provision of manures of the right type;

(iv) Provision of qualified and properly trained technical personnel to carry the results of research to the sugarcane growers;

(v) Provision of efficient watch and ward service for protection of the crop against pests and diseases;

(vi) Provision of zonal centres; and

(vii) Provision of a soil extension service, the objective being to provide, on the basis of soil analysis, advice to growers as regards the best use of the land and the nature of the fertilisers needed by it.

Preference will be given to schemes dealing with items (i) and (ii)

Increased Grant to the Indian Central Sugarcane Committee

When the Indian Central Sugarcane Committee was constituted in 1944, Government decided to place at its disposal funds at the rate of one anna per cwt. of white sugar produced in India, out of the excise duty. In 1947, the Government of India decided, on the recommendation of the Tariff Board, to increase the grant to 4 annas per cwt. The amount of money thus available to the Committee will be about Rs. 50,00,000 per annum, and this should enable the Committee to conduct research work with added expedition and efficiency for achieving increased yield, improved quality, and decreased cost of production of sugarcane within a short period.

Research on Cane at the Coimbatore Sugarcane Breeding Station, 1946-47

We will first refer to the improvement of cane for sub-tropical areas. The bulk of the area under sugarcane in India (about 80 per cent) is in Northern India, and the Coimbatore Station had naturally to direct its attention first to the class of cane in the U.P., Bihar and Punjab. The average yield of cane was about 10 tons per acre, while the improved canes in Java and other countries yielded about 4-6 times as much.

The growth conditions in the Indian sugarcane area (largely sub-tropical) differ in important respects from those obtaining in other tropical sugarcane growing countries of the world. The growth period is very short, canes are generally planted in February and March and commence their life in extremely severe summer conditions which greatly inhibit growth. The crop gets a real chance to grow only in the monsoon rains of June-July. At the other end a fairly severe winter (accompanied by frost in the western regions) practically stops growth from the end of November. The total growth period thus corresponds roughly to about 6 months of normal growing, whereas in tropical parts of the world sugarcane grows almost uninterrupted for 12 to 16 months, and in Hawaii even to 24 months.

One outstanding characteristic of the breeding work at Coimbatore has been the range of parents which it has been able to employ in its breeding programme. It was the first Sugarcane Station in the world to deliberately employ the wild Kans and to raise an intergeneric hybrid.

It must be stated that the enthusiastic manner in which breeding programmes have been pursued in Coimbatore has borne substantial fruits in that some varieties evolved at the station have proved largely successful as compared with the indigenous canes. In 1928-29 the improved Co. canes occupied 11.6 per cent of the cane area in India, and in 1935-36 they occupied 76 per cent of the area. There are now several individual important tracts where Co. canes occupy more than 90 per cent of the area. There is, perhaps, no other economic crop in which such an advance has been registered in India. The higher yield of Co. canes has reflected itself in the higher overall average of cane yield in India. The present all-India average is about 15 tons per acre, as against 10 tons before the advent of the Co. canes. The money value of this increase to the Indian cultivator, even at a moderate estimate, comes to Rs. 15 crores per year.

The main canes in U.P. in recent years are Co. 312, Co. 290, Co. 421, and Co. 370. In Bihar, Co. 210, Co. 213 and Co. 214 at once became popular and replaced the indigenous canes. After the Red Rot epidemic in 1939 the main canes in North Bihar and South Bihar are Co. 313 and Co. 453 respectively.

Though the area under cane in the tropical province like Madras, Bombay and Orissa and the States of Hyderabad and Mysore, is relatively small as compared to the main cane-growing province in Northern India, yet it is by no means insignificant in the aggregate. The types of cane grown are the thick tropical ones which yield fairly satisfac-

torily. The first batch of thick Co. canes was distributed in 1931, and since 1933 Co. 419 has become popular and successful in the tropical areas of India. It has replaced the Pundia in the Deccan Canal Tract and is now the main cane in that area. It is also grown in the factory area of Hyderabad State, while in the Mysore factory 80 per cent of the cane milled is Co. 419. The other canes of this series which are doing well in other localities are Co. 421 and Co. 453, the former in Western U.P. and the latter in South Bihar. The Coimbatore Station has also undertaken Morphological, Cyto-genetical, Physiological and Chemical studies of canes during recent years.

The Coimbatore Sugarcane Station has established an excellent reputation in sugarcane breeding all over the world. It deserves suitable help in the matter of staff, equipment and resources, in order to expand its scientific work and to raise its status to that of a first class self-contained institution of research. The greater the equipment at Coimbatore, the greater will be its service to the sugar industry. We earnestly hope that from the larger funds placed at the disposal of the Indian Central Sugarcane Committee, a liberal grant will be made to this Station in the years to come.

Mr. N. L. Dutt on Improvement of Cane Yields on Cane-growers' Farms

Before we conclude this paragraph, we would like to refer to the Presidential Address of Mr. N. L. Dutt, Sugarcane Expert at Coimbatore, delivered at the 34th Indian Science Congress held in Delhi in 1947, where he has referred to the question of cane development in India and has pointed out a big gap which exists between acre yields as obtained by the average cane-grower and by the Sugarcane Research Stations, or by progressive cultivators, or at factory farms. He has referred to the lack of interest in cane development which has resulted in poor cane crop and indifferent raw material being supplied to the factories.

Mr. Dutt has stated in clear terms that until this gap is filled the sugar industry will not be able to stand on its own legs and to produce sugar at competitive prices for, the major part of the cost of production of sugar is the cost of raw material. He has also suggested various methods for improving the position, namely, only approved varieties should be cultivated by discouraging undesirable varieties, and the main cane in each tract should be essentially a great yielder and not calculated merely to give high recoveries. No new variety should be released for general cultivation which has not passed through the Zonal Trial and for which a proper Mill Test has not been conducted. Cane development work should be judged by the growth of the crop in the whole area of the zone, and not by the growth of the Demonstration Plots alone, etc. He has also referred to the necessity of growing early, mid-season and late varieties of cane, for extension of the crushing season. He has suggested that the early variety should occupy 30 per cent of the area and should be crushed in the first month. The ratoons should be crushed in the second month. Only the main and mid-season variety should be ratooned from the third month harvest. Thus, only 25 per cent of the area will be under ratoons, and one ratoon

should be taken. The area under the late variety should be only 20 per cent of the total area and should be crushed in the fourth month. He has observed that the cost of cultivation of ratoons is much less than that of plant crop. The ratoon, therefore, is a great factor in reducing the cost of cultivation and is essential for the success of the industry. But Mr. Dutt has pointed out that the ratoons should not be grown merely as a "free" crop, and should receive proper cultural, manurial and other care. He has sounded a note of warning, however, that ratooning should be suspended in the event of outbreak of diseases, such as Red Rot or Smut. According to him there is a definite place for one ratoon in planned cane growing, and it should be crushed in the early part of the crushing season, and on no account be allowed to linger till the beginning of February or thereafter.

Mr. Dutt has also referred in his Presidential Address, to the remarks made by Sir Purshotamdas Thakurdas, in his foreword to Mr. M. P. Gandhi's "Problems of Sugar Industry in India—Scope and Prospects of Reorganisation in Post-war Period" (published in 1945), and has endorsed his observations that the utilisation of molasses and obtaining of greater yield of cane per acre are the two main factors for the success of the industry.

Working of the Cane Development Department in U.P. in 1945-46

We will now refer to the working of the Cane Development Department in the U.P. during 1945-46. The province of U.P. consisted of 100 Cane Zones (1945-46), as against 98 in the previous year. The total cane area reserved for the factories was 8,78,000 acres, of which 7,20,000 acres from 21,521 villages was under the control of Co-operative Societies numbering 93. The policy of intensive development of sugarcane within a 10-mile radius of the factories continued, with the result that 76.19 per cent of the total cane crushed by factories was supplied at their gates. The scheme of 50-acre blocks was pursued further and this resulted in higher yield than the average yield. Zonal trials were laid out at 41 different centres during the year to demonstrate and confirm the results achieved at the Research Station concerning suitable varieties for different areas, cultural practices and optimum dose of manures, etc. Special stress was laid on the selection of disease-free cane seeds of approved varieties.

Distribution of Seed

Distribution of healthy disease-free cane seed was restricted to the varieties approved by the Regional Sugarcane Committees. In all, 21,52,589 maunds of cane seed of approved varieties were distributed during the year, as compared with 17,90,760 maunds in the previous year.

Distribution of Manure

Difficulties in transport, coupled with high prices, prevented extensive distribution of fertilisers. Even so, during the year, 2,04,907 maunds of cakes and fertilisers were distributed, as compared with 1,25,304 maunds in last year.

Implements

Propaganda was continued for the use of improved implements, but the full demand could not be met for want of material and transport difficulties. In all, 14,935 implements were distributed during the year, as against 19,349 of the previous year.

Weather Conditions

Uneven distribution of rainfall, coupled with total failure of winter rain, adversely affected the growth of cane, resulting in poor yield. There was no disease of pests during the year. Stray cases of wilt in Gorakhpur, borer in Meerut and Gonda and traces of red rot in Gorakhpur and Rohilkand Ranges were, however, noticed.

Factories and Crush

65 Factories worked in the year and crushed 1393.90 lakhs maunds of cane. The average recovery was 10.09 per cent.

Cane-growers' Co-operative Societies

The Cane-growers' Co-operative Societies are playing an important role in development and marketing of cane. They are democratic in character and their by-laws provide for multi-purpose activities, though development and marketing of cane are their chief functions. The total number of such Societies in the province was 93 spread over 21,512 villages with a membership of 8,27,968 growers. Of the 93 Cane Unions, 17 worked at a loss, and 76 at a profit. In some cases factories also allowed loans to the Unions, interest free, or at a nominal rate of interest.

Marketing of Cane

The area under sugarcane was less than in the previous year. The total area reserved for factories in the various ranges for the year 1945-46 was 8.78 lakhs acres of which 7.20 lakhs acres was under the command of Co-operative Societies. The Co-operative Societies thus controlled 82% of the total acreage. The total crush of the factories was 1393.90 lakhs maunds of which 1032.52 lakhs maunds was supplied by the Co-operative Societies. Thus they supplied 73.7% of the total crush of the factories. The yield was estimated at 2,419 lakhs maunds which works out at an average of 275 maunds per acre of which only 58% was utilised for the production of white sugar.

It is expected that within a few years the societies, which are becoming very popular with the growers, will supply the entire requirements of the factories. During the war Government appointed a committee to go into the working of cane unions. The report of the committee is under the consideration of the U.P. Government.

Seed Stores

There were 59 seed stores and 9 sub-stores during the year, managed by the cane unions.

Rural Development Activities

Owing to the meagre financial resources of the unions, village uplift schemes of any ambitious nature could not be undertaken. The unions, however, undertook works of a minor nature such as construction and repair of village roads, repair and boring of wells, improvement of cattle, etc.

Cane-area of 16,000 acres per factory needed

The Cane Development Department issued a circular which showed that a factory of 880 tons capacity would require 24 lakhs maunds of cane for a crushing season of 100 working days. By reducing the number of Bels and Kolhus within the reserved area of a factory, to 100 and 300 respectively, it is estimated that a total quantity of about 40 lakhs maunds of cane would be required. Adding about 6 lakhs maunds as the requirement of seeds, etc. it was estimated that the gate area of the zone should produce 46 lakhs maunds of cane, and for that purpose it should cultivate about 16,000 acres of land in order to make the factory self-supporting.

Research work at Shahjahanpur (U.P.) in 1945-46

We give below a short resume of the work on sugarcane research carried out during the year 1945-46 by the Sugarcane Research Station at Shahjahanpur.

Varietal: 5 new varieties were found promising during the year and have been included in final trials. Two varieties, Co. 557 and CoK. 30 have been issued to outstation centres in the province for testing. A new variety CoS. 245 has given good results in outstation trials and is being multiplied for mill tests. Co. 453, a heavy yielding disease-resistant cane, gave satisfactory results in the mill-tests in eastern U.P., and is to be issued for commercial cultivation in the eastern, mid-eastern and central ranges in the planting season of 1947-48.

Manurial: Cane did not show response to phosphate and potash even in the sixth successive crop in the same field at Shahjahanpur. Depletion of nitrogen was evident in the results.

In studies in different manures under cropped and fallow conditions the highest nitrogen percentage was obtained in May for organic manures (about 4 months after application) and in June for inorganic ones (within a week of their application), both in cropped and fallow conditions. Farm-yard manure increased and ammonium nitrate, ammonium sulphate, press mud and control decreased the organic carbon status. Other treatments were not so marked. The sucrose percentage in juice was highest in control followed by urine earth, farm-yard manure, compost, press mud, castor cake, molassic manure, ammonium sulphate and ammonium nitrate. Plant analysis showed that there is a tendency for ash percentage, P205 and K20% to decrease and CaO percentage to increase on the addition of organic nitrogenous manures. Two new fertilisers, ammonium nitrate, and hoof and horn manure, gave good increases in yield.

Cane yield was more or less proportionate to the dosage of groundnut cake upto about 34 maunds per acre. Application of sulphate of ammonia in furrows at planting appears to be a good practice. Minor elements, boron, copper, manganese, sulphur and zinc applied to the soil in the field did not increase the yield or sugar content of cane, either singly or in combination.

Cultural and Irrigational: Filling gaps in the ratoon crop by fresh planting does not seem to improve the outturn for cane from the ratoon. With proper and timely cultivation of the soil, irrigation given to cane immediately after planting can give as good an yield as irrigation given before planting. Where cane is planted late, the loss in yield is minimised by irrigating after planting. Three irrigations from early May to end of June at 20 days' interval were found to be the minimum required for a normal yield. Ratoons showed a high response to nitrogenous manuring, even upto 150 lb. N. per acre. Possibilities of harvesting an early variety of cane in October and taking a crop of wheat in the following rabi season were tested with positive results at Muzaffarnagar. A large number of simple trials conducted on cultivators' fields proved the benefits of timely planting, sanai green manuring, manuring with cattled dung, research compost and oil-cake and of earthing-up.

Cane Development in Bihar in 1945-46

The Central Sugarcane Research Station at Pusa in Bihar continued to function as usual. During the year, pests and diseases control in Bihar was successfully tackled through the establishment of watch and ward service which was being paid for by the factories and supervised by the Research Station. The Government allowed discarding of undesirable varieties of cane for particular localities on the recommendation of the Bihar Sugarcane Varieties Advisory Committee. Sugarcane crop was affected by smut and mosaic, and in some areas by wilt.

Cane-growers' Co-operative Societies in Bihar in 1946-47

Since 1938, factories in Bihar are purchasing their cane requirements mainly through Cane-growers' Co-operative Societies. A flat rate of 3 pies per maund has been fixed as commission. The number of Cane-growers' Co-operative Societies upto 31st December 1946 was 4,060, and the number of Unions 59. The number of members was 94,452. All these record a great improvement in the position over the last and previous years. The co-operative commission earned during 1945-46 was Rs. 1,72,000 as compared with Rs. 1,47,000 in 1944-45. The figures for 1946-47 are not yet available. The total cane supplied by the Cane-growers' Co-operative Societies amounted to 110 lakhs maunds in 1945-46, as compared with 94 lakhs maunds in 1944-45. The exact figures for 1946-47 are not yet available. The percentage of supply in 1945-46 was 24.9 as compared with 22 in the year 1944-45.

During 1947, the Government amended the Bihar Sugar Factories Control Act, according to which it will be possible to undertake wholesale supply of sugarcane to Cane-growers' Co-operative Societies in villages where two-thirds of the growers residing in the village have

become members of the Cane-growers' Co-operative Society. It is hoped that during 1947-48 advantage of this legislation will be taken with a view to ensuring that 100 per cent of the cane supply to the factories is made by the Cane-growers' Co-operative Societies.

The Registrar of Co-operative Societies, Bihar, controls the organisation of the Cane-growers' Co-operative Societies. Since 1945, a Co-operative Training Institute has been established with a view to training the office-bearers and executives of Cane Co-operative in the management of Cane-growers' Co-operative Societies, and Cane Development Marketing Unions.

Co-operative Farming undertaken

It is appreciated that the holding of an average cultivator is too uneconomic and his resources too meagre to take up cultivation on scientific basis. The object of the present experiments is to show that in a large piece of compact land, the cultivator can get better return by adopting scientific and up-to-date methods of agriculture, and it is possible even under the present conditions and the existing law to convert the smaller and uneconomic holdings into bigger and economic ones by co-operation. The essentials of the Co-operative Farming Scheme are: (1) individual holdings are physically pooled together into a new unit of management, and (2) the persons participating in the scheme retain their title to a recurring return without losing their right of ownership or occupancy over their land.

During the year grants were made for minor irrigation works, that is, for sinking of wells in order to assist Cane-growers' Co-operative Societies and other Societies. For this purpose a sum of Rs. 1,00,000 was placed at the disposal of the Joint Registrar. A sum of not more than Rs. 1,500 is to be granted for sinking one well, on condition that 50% of the cost of construction of a well will be met by Government and 50% by members and non-members.

The total area put under cane by the Societies during the year 1944-45 was 48,600 acres, as against 53,600 acres during 1943-44. The total value of the cane sold in 1944-45, namely, 94,000 maunds was Rs. 89,00,000, as against Rs. 84,00,000 during 1943-44, when the quantity of cane supplied was 113 lakhs maunds.

The approximate value of gur manufactured during 1944 was Rs. 7,32,000 as against 11,00,000 in 1943. Voluntary contributions to the Common Good Fund raised by the members during the year was Rs. 3,629. Village libraries were started in 62 Societies, 5 miles of roads were repaired, mass literacy centres were started, etc. This shows that the co-operative movement has gained immense popularity and is full of potentialities.

Review of the Quality of Sugar Manufactured in 1945-46

It is gratifying to note that there has been a steady improvement in the quality of sugar produced in 1945-46 over the previous season inasmuch as there has been greater production of sugar corresponding to colour 27 and grain size D. Like 1944-45, the most common quality

was 27E whose percentage production has increased this season. Although the percentage of factories producing 3 and 4 grades has increased in 1945-46 as compared to the last season, individual factories in many cases have continued to record far too many grades. This may not be intentional but appears to be the result of insufficient attention paid to the production of a uniform quality throughout the season. It is essential that production should be confined to as few uniform grades as possible.

Sugar Control Advisory Committee, 1947

The Sugar Control Advisory Committee appointed by the Government of India usually meets twice a year. The last meeting was held on the 9th May 1947 at Delhi. At this meeting the sugar position in 1946-47 was reviewed, and the reasons for the low production of sugar in the various provinces were recorded. The Indian Sugar Syndicate urged that for 1947 the price of U.P. sugar should be raised to Rs. 22-4-10 per maund and the price of North Bihar sugar, to Rs. 24-11-2 per maund, while for South Bihar they recommended a separate price of Rs. 32-3-0 per maund, in view of the greatly increased cost of production of sugar following the short season and low recovery. The Madras Representative suggested an increase of Rs. 3 per maund in the price to Madras factories. The view was generally expressed that the prices of sugar in the various regions should be readjusted suitably. No action, however, was taken.

There was also a discussion as to whether the Government of India should import the 30,000 tons of refined sugar which was available at controlled price from Cuba, in accordance with the allotment of the International Emergency Food Council. India was allowed to import a further 70,000 tons from the uncontrolled markets of the world. The view expressed at the meeting was that imports of sugar would have to be restricted to the barest minimum requirements as the prices were considered to be too high and India's foreign exchange position was tight. The Sugar Controller enquired if the Confectionery Manufacturers were willing to utilise the sugar offered to India from the uncontrolled markets which costs more than double the price of Indian sugar. It was understood from the Confectionery Manufacturers' Association that they would not like to go in for this high priced sugar.

The meeting was attended by Mr. N. T. Mone, Sugar Controller, and representatives of the Governments of U.P., Bihar, Bombay, Bengal, Punjab, and of the industry, as also of the Confectionery Manufacturers' Association and merchants.

Imperial Institute of Sugar Technology, Cawnpore/Lucknow

The Imperial Institute of Sugar Technology, Cawnpore, was established by the Government of India in October 1936, for a period of 5 years, and its term was being extended from year to year until the Indian Central Sugarcane Committee took over the Institute from 1st March 1945. The Institute provides facilities for the training of students in all branches of Sugar Technology, and has various courses ranging for varying periods of one year to three years. The Institute also under-

takes programmes of research work in various sections, namely, Sugar Engineering, Sugar Technology, Biochemistry, Physical Chemistry, Sugar Chemistry, Organic Chemistry and Statistics. Two research schemes were being worked under the guidance and control of the Director during 1945-46, (1) the Sugar Research and Testing Station, Bilari (Moradabad), and (2) scheme for research on the manufacture of sugar candy in India.

The Institute also prepares Indian sugar standards according to the approved specifications and supplies it to sugar factories, Government Departments, etc. The Institute has a small experimental sugar factory with a capacity of 30 tons of cane per day. It is a miniature factory fairly well equipped for the training of students and for carrying on experiments.

The Government have made available to the Indian Central Sugarcane Committee a non-recurring grant of Rs. 50,00,000 for expenditure on the Imperial Institute of Sugar Technology, indicating that they would hand over this sum as soon as the plans for the building of the Imperial Institute of Sugar Technology at Lucknow were finalised. It is expected that the Institute will start working at Lucknow next year.

The Indian Central Sugarcane Committee decided in February 1947 to take over from the War Department the Bhudruk Military Farm at Lucknow for establishing its own Central Sugarcane Research-cum-Technological Institute.

Indian Sugar Syndicate's Activities in 1946-47

During the season under review the Syndicate's activities consisted in looking after the interest of the industry in general in U.P. and Bihar and making various suggestions to the Government for its improvement. It also continued, as usual, to watch the general interest of its Members and made representations to the authorities concerned on numerous aspects of control.

The Syndicate considered the pros and cons of control over sugar and concluded that control should be removed in the interest of the industry. There has been a gradual decline in the production of sugar in the country especially in U.P. and Bihar since 1943-44 and even the cane price of Re. 1-4-0 fixed by Government during the season 1946-47 went out of parity on account of high gur and khandsari prices and cane supplies to factories in U.P. and Bihar seriously suffered. The Syndicate strongly represented to the Government that the economic laws of supply and demand should once again be allowed free play and the old trade channels for distributing sugar should be restored as early as possible.

The Syndicate had also approached the U.P. Government for permitting it to pool the entire molasses of its U.P. Members and to market the same equitably for all members concerned. The U.P. Government has so far not arrived at any decision in the matter.

The Syndicate also viewed with great concern the growing labour unrest in the country, particularly so far as the U.P. and Bihar factories were concerned. During the season under review, its member-factories

suffered from strikes and lost about 2,500 working hours. Others were kept on their toes by threats of strike. In order to serve the industry well, the Labour Department was started under the auspices of the Syndicate with its sub-offices at Gorakhpur, Meerut and Muzaffarpur. It has been doing useful work in assisting members in their disputes with labour.

This Department is a recent creation of the Syndicate and promises to be an expanding one. The functions of this Department vary. The clarification of the Adjudication orders is itself a beginning of the task, especially in view of the fact that the Conciliation Officers appointed by Government make their awards not in the precise language of lawyers but with some ambiguity about them. There is no gainsaying the fact that labour is assuming day by day biggish proportions and the U.P. Government is trying its best to standardize conditions for labour in the sugar industry by the appointment of the Nimbkar Committee. Their enquiries are very exhaustive and their reports are expected to be comprehensive also. It is apparent from the evidence they are taking that they do not expect the return of pre-war conditions in the matter of price structure of essential commodities and their recommendations will be based on the increased cost of living index now prevailing all over India. They do not conjure up any aspect of deflation in the near future.

All efforts will be made both by Government and the Labour Department of the Syndicate to ensure uninterrupted crush during the next season but it is too soon to say whether these efforts will be as successful as they should be.

The Syndicate hopes that in case Government de-controls sugar, they would entrust the duty of distribution to a non-official body like the Syndicate.

Cost of Cultivation of Cane and Fair Price of Cane

The Tariff Board (1937) estimated the cost of cultivation of cane to be Re. 0-3-7 per maund in U.P., Re. 0-3-4 per maund in Bihar, Re. 0-7-0 per maund in Bengal, Re. 0-5-10 per maund in Bombay, Re. 0-5-5 per maund in Madras, etc. The Tariff Board also observed that the possibilities of general improvement of yield in tonnage and quality were better in the South than in the North and that equalisation of the cost of production was possible at no distant date. For purposes of the report, the Tariff Board (1937) estimated Re. 0-4-3 per maund as the fair price for cane.

As is well known, this data has now become completely out of date and obsolete and the cost of cultivation of cane, in line with that of other crops, has gone up tremendously during the last decade. We suggest that as soon as conditions become a little more stable, an inquiry should be made in regard to the cost of production in order to enable the price of cane being fixed on a suitable basis and to consider the possibility of fixation of prices according to qualities.

Factories prefer Gate Cane to Rail-Borne Cane

Generally, cane is transported to the factories by carts and lorries from within a radius of about 15 miles. The area near the mills is termed as "gate area". Factories prefer gate cane to rail-borne cane for numerous reasons, including its freshness, uniformity of supply, less handling charges, etc. In the absence of suitable roads and communications, however, large quantities of cane have to be brought by rail, and this has placed additional burden on the railways. Besides, the greater dependence of the factories on rail-borne cane has led to deterioration in the quality of the cane as it takes a longer time for the cane to arrive by rail.

U.P. and Bihar factories obtain 80% of their cane at the gate, while Bombay gets practically 100%. We suggest that suitable encouragement should be given for ensuring larger supplies of cane from areas in the vicinity of factories, and where this is not possible, factories should be given full facilities to get their cane supplies by rail in order to ensure full crush. In order to enable factories to receive cane fresh, *pucca* roads should be built round about factories, and the Government should take personal interest in this matter.

Problem of marketing Sugar

With the imposition of central control on production, distribution, prices and movement of sugar in 1942, movement of sugar does not appear to present any serious difficulties. Sugar is moved under the directions of the Sugar Controller from the various factories direct to the destination areas, and this is done in a manner which avoids overlapping and minimises freight charges. Before the assumption of control, the Indian Sugar Syndicate used to market the bulk of the sugar produced in the country. Usually, the carry-over at the end of the season is about 1,00,000 tons, but we feel that normally there ought to be a carry-over ranging between 2 to 3 lakhs tons, in order to provide for a bad crop in same year. The carry-over at present is very small, particularly because production has been continuously falling for the last 3 years (*vide* Table No. 20, in "The Sugar Industry at a Glance").

Consumption of Sugar in Provinces

The U.P. and Bihar only consume 20 per cent of their normal sugar production every year, and the balance is to be transported to other provinces and areas. Bombay and Punjab only produce 7 per cent of their total consumption of sugar, and large quantities are imported from U.P. and Bihar. The *per capita* consumption varies widely in provinces. It varies between urban and rural areas. Bombay is the province where the *per capita* consumption is the highest. Varying consumption in different provinces is due to several factors. The "Report on Marketing of Sugar" contains very interesting observations regarding consumption of sugar and gur by various provinces and classes and for various purposes. We would invite a reference to Table No. 32 in "The Sugar Industry at a Glance"

The Bihar Labour Inquiry Committee, 1938-39

In 1938, the Bihar Government appointed a Labour Inquiry Committee for investigating the problems of labour in Bihar and making recommendations for improvement in conditions of wages, employment, work, etc. Dr. Rajendra Prasad was the Chairman, and Mr. M. P. Gandhi, *Editor* of this *Annual*, was one of the members. The Committee submitted its report in 1939, but little progress was made in implementing its recommendations until 1945, when the Bihar Government made proposals for ensuring a minimum wage of Rs. 20 per month in sugar factories, which was accepted by the factories in 1946. In 1947, the minimum wage was increased to Rs. 36 in accordance with the recommendations of the Bhatia Committee, and some other amenities were also given. We have already referred to the conditions of labour in the previous portion of this *Annual* in great detail. We only wish to add at this stage that in our opinion the time has come when, in the interest of acceleration of production of sugar, there ought to be an industrial truce, at least for a couple of years and labour should press its claim for larger amenities or higher wages in a manner which will avoid strikes, and should make the fullest use of the machinery provided for settlement of disputes by conciliation, arbitration or adjudication. Increased production is the greatest essential at the present time, when there is a great dearth of consumer goods, and we hope that labour will play its part truly and well at this critical juncture by maintaining peaceful relations in the industry.

Future of the Industry rests on Improvement in Cane Yields

The future of the industry depends principally upon the improvement in the yield of cane, and the reduction in cost of its cultivation. Having discussed the problems of the industry in detail in the previous pages, we need hardly stress any more the fact that the future of the sugar industry depends upon the success achieved in reducing the cost of cultivation of cane by increasing the yield per acre, from 15 tons to nearly 40 to 50 tons per acre. This alone will help the industry to withstand competition from Java, Cuba, Hawaii, Formosa, and the Philippines which are advantageously situated due to climatic and other conditions, for production of cheap cane. We would invite reference to Table No. 23 in "The Sugar Industry at a Glance", showing comparative yields of cane and sugar per acre in various countries.

Our Target of Production can be Still Higher

We have discussed in considerable detail the question of the future development of the industry and have referred to the recommendations of the Sugar Panel and the Government of India's resolution fixing the target of production at 18,50,000 tons of sugar for the years to come. We feel, however, that even this quantity is hardly enough, particularly when we see that our sugar and gur consumption is only 24 lbs. per head per year, as against 106 lbs. in U.K., 97 lbs. in U.S.A., etc. (*vide* Table No. 5, in "The Sugar Industry at a Glance"). Personally, we feel that we would urgently need far more sugar and it should not be difficult to achieve such a target of still higher production as a bulk of the machinery required for this industry can be manufactured within

the country. A 25 per cent increase over the pre-war consumption figure of sugar may be good enough as an arbitrary target as fixed by the Sugar Panel, but looking to the increase in population and the fact that we consume far too little sugar today, *although we are the largest sugar (including gur) producing country of the world*, we feel that we can easily consume a far larger quantity of sugar and make this energising food available to the people in larger quantities. What is needed, however, is a considerable and quick improvement in cane cultivation which would enable us to double our sugar production within the next 5 years, and to treble it within the next decade. There is a great advantage in planning for such a large production because, apart from meeting our own needs, we can also meet the needs of the various neighbouring countries and by exporting sugar, we can also help in raising funds for enabling imports of vital goods required by the country.

World Production of Sugar

The world production of sugar—both cane and beet—fell considerably during the war period. It fell to a low level of 26 million tons in 1943-44. The expectation of production in 1946-47 is of the order of 30 million tons, which compares favourably with the pre-war production of about the same size.*

It is not quite easy to estimate the production of sugar in the world during the next year or two with any exactitude because full information of a reliable character is not easily available, but from such data as is available, it is possible to make some estimates which may not be far out. The world production in 1946-47 is expected to be 3,06,46,000 tons. The consumption also is slowly increasing as a result of the termination of rationing of sugar in various countries like U.S.A. and Australia, from June 1947, etc.† Certain countries are struggling to rebuild their sugar industry in order to cover the home requirements.

There are several importing areas in which there is insistent demand from the population for more sugar to relieve the war-time monotony of the diet. In some cases, the complicated currency situation stands in the way of such a desire being fulfilled. For example, in the case of India itself, a larger quantity of sugar could have been imported from abroad to meet the deficit in 1947, but this could not be done largely because of the currency situation which made it difficult to procure the necessary exchange. In 1947-48 the world consumption will certainly increase, and with it also the production.

* The office of the Foreign Agricultural Relations of the U.S. Department of Agriculture estimates the 1946-47 total production of cane and beet sugar at 30,646,000 short tons, compared with 26,304,000 tons in 1945-46, and the five year (1935-39) average of 34,783,000 tons.

† Sugar rationing in U.K. was increased by 2 ozs. to 10 ozs. per week from the 20th July 1947. From October 1947, however, an austerity cut was again made reducing the quantity, due to exchange difficulties.

Conditions in Java

There have been very conflicting reports in regard to the conditions of the sugar industry in Java in recent years. This is due to the unsettled political conditions in Java. In April 1947, the U.S.A. Government sent a Commission to Java to find out the conditions of the sugar industry. Latest estimates show, that Java has a stock of not more than 3,30,000 tons of exportable sugar, but it is doubtful as to whether any significant quantities can be exported under the existing political disturbances between the Dutch and Indonesians. In any case, transportation difficulties and port limitations would limit the amount of sugar which could be exported to about 2,20,000 tons in 1947. According to one authority, the total stocks as on 1st May 1947, were estimated at 9,80,000 tons, of which 8,80,000 tons were reported to have been produced by European and Chinese-owned mills, and 1,00,000 tons by Japanese and Indonesian-owned mills. The requirements for Indonesian consumption from 1st May 1947 until the 1948 crop becomes available were placed at 6,50,000 tons. No sugar was produced in Java in 1946, and only about 25,000 tons is expected to be produced in 1947. The expectation of production of sugar in Java in 1948 is only about 50,000 tons. Normally the harvest of cane starts in Java in May and it was stated that no cane was harvested in 1947, due to the fact that such cane as was growing was needed for nursery purposes. Assuming that there are no political disturbances and allowing for the uphill fight which Java will have to make to re-establish its sugar industry, this correspondent of Lamborn feels that the production of Java sugar will not exceed 1,00,000 tons even in 1949. The gravity of this situation would be realised when we consider that before the war Java produced approximately 16,00,000 tons annually, her largest production being 29,00,000 tons in 1928. (Also *vide* Tables No. 24 and No. 6 *in* "*The Sugar Industry at a Glance*").

C. Czarnikow's latest review observes that the factory buildings in Java were in generally good shape, but the plants in several cases need repair parts and miscellaneous supplies, and were practically without lubrication. This latter was the most critical thing for the 8 mills which were scheduled to grind this year (1947). Failing supply of lubricants, it was feared that damage to the mills would result, and completion of grinding would be doubtful. According to this agency, it is possible that production in 1948 may about equal the estimated local consumption, given effective collaboration between all parties in the industry. The supply of fertilisers is also reported to be inadequate and yields are likely to be low. (*Vide* "Australian Sugar Journal", 15th August 1947.)

In view of these reports, Java is not likely to be able to export sugar in any appreciable quantity at least for the next two or three seasons.

Formosa

In regard to Formosa, which, before the war, produced over 10,00,000 tons per annum, which went to Japan, except for local consumption needs, it is understood that it will produce only 1,50,000 tons in 1947. Formosa's sugar industry was destroyed substantially by bombing and the industry has been very hard hit, her plants having been destroyed.

Cuba

The production of sugar in Cuba has gone up from 30,00,000 tons in 1939 to 39,00,000 tons in 1945 and 44,00,000 tons in 1946.

Australia

The Australian sugar production for 1946 was expected at one time to be 7,50,000 tons, but it has proved different and the final result was only 5,52,000 tons, of which 5,13,000 tons came from Queensland and 39,000 tons from New South Wales.

An indication of the progress made in cane growing efficiency in Australia can be had from the fact that in the 10-year period 1898-1908 the tons of cane per acre averaged 15.04, in 1929-38 the average was 19.62 tons and for 1939 the figure was 23.14 tons per acre. It may also be of interest to note that in 1885 it required 230 mills in Australia to make 73,000 tons of sugar, while in 1939, 36 mills produced 9,28,000 tons of sugar.

Persia

In Persia, the production of sugar in 1946-47 was 32,500 tons, an increase of 1,200 tons over the previous year.

Spain

In Spain efforts are being made by the National Sugar Syndicate to raise the sugar production to 4,50,000 tons in two years.

India and Pakistan

With the partition of India with effect from 15th August 1947, it will be of interest to see how the sugar industry is affected by the partition. Of the 145 factories working in India, 10 will go to the Pakistan area, and the estimated production of these 10 factories would be about 30,000 tons per year. The consumption of sugar in the Pakistan area is estimated to be of the order of 2,85,000 tons, while their production will be only about 30,000 tons as observed above. Of the area under cane, namely, about 40,00,000 acres, 30,00,000 acres will remain in the Union of India, and 10,00,000 acres will fall in the Pakistan area. (*Vide* page xl, and Appendix last page.)

Indian Sugar Industry's Development must be maintained

The romantic development of the sugar industry since 1932 and the magnificent contribution it has made towards meeting the urgent demands of sugar during this period, including the six years of World War, must meet with the highest appreciation of the public and the State. It is undoubted that the industry has fully justified the measure of liberal protection granted to it. The war has also revealed the necessity of strengthening the position of this industry for any emergency which may crop up. Its further development has also become necessary due to the requirements of the millions in this country of an energising food containing 100 per cent carbohydrates of which there is a short supply in India and in the whole world at the present time. The country has been starved of supplies of sugar in spite of the policy of the Government to maximise sugar production in the country, because except in one year, namely, 1943-44, it was not possible to increase production of sugar to a figure higher than the production during the war period. This was due, however, to several bottlenecks, namely, a decrease in the supply of cane in suitable quantities, of raw materials, of transport, lack of a co-ordinated policy, etc. The Government of India has recommended the further expansion of the industry and has estimated that the demand of sugar will grow to 18½ lakhs tons in the years to come. We entirely agree with this view, and in fact feel strongly that the target must be fixed much higher. We earnestly hope and trust that the new National Government installed at the Centre after the grant of independence to India on the 15th August 1947, will take a living interest in the development and welfare of this industry, and take suitable measures to ensure a proper dispersal of the industry all over the country, and thus enable the various provinces to derive suitable benefit from the development of the industry.

We also trust that the Indian Central Sugarcane Committee will immediately draw up both short-term and long-term plans of research on a comprehensive scale for spending the largely increased amount of money which would be made available to it from 1947, out of the proceeds of the excise duty on sugar, which will work out roughly to about Rs. 50,00,000 per year, and spend the money in a manner calculated to bring down the cost of production of sugar in the country. This will be helpful in increasing the consumption of sugar in the country, and will also enable India to occupy an important place among the sugar producing countries of the world in the years to come. A well-planned policy on practical lines, prepared in close co-operation with the industry, is absolutely essential for a thorough reorganisation of the industry with a view to achieving efficiency in every sphere of its operation.

Industry has amply justified Protection

We have no doubt that the industry will expand considerably during the next decade and be in a position to cater for the increased demand of both sugar and gur which is bound to result from the success of the plans to be undertaken by the Government for the economic develop-

ment of the country, and also for export of sugar in reasonable quantities to neighbouring countries which do not get their requirements of sugar through their pre-war suppliers. We also feel strongly that the Government should evince the greatest care and concern for safeguarding and supporting this industry which has a unique place in the agricultural economy of India and which has stood by the country during the war period and made available supplies of sugar and gur at reasonable rates, without profiteering and even without improving its own financial condition (some units having had to sustain loss in some years), in appreciation of the effects of such a far-sighted policy on the minds of the general public which has enabled the establishment of this industry under the impetus of liberal tariff protection granted by the State over 15 years ago.

There is no doubt also that the industry has served the country satisfactorily * and it would be the solemn duty of the Legislatures and Government to look after this industry (which has responded so magnificently to the country's call in the war-period and has thoroughly justified the policy of protection) in the years to come, and to plan measures for its further development in a manner which would ensure the amelioration of the agriculturists, guarantee a fair monetary return to the industrialists and investors, and give a fair deal to labour by fixing suitable wages and amenities.

Increase in Production is the Paramount Need

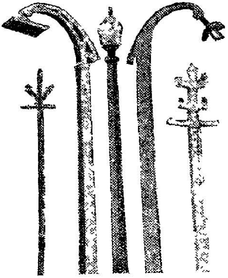
Of the utmost importance at this juncture, however, in our view, is planning for increased production of sugar, and it is the duty of all the interests concerned to co-operate in such a manner by maintenance of friendly and peaceful relations that this goal is achieved, so that it may be possible for India to provide plentiful quantities of sugar, which would on the one hand eliminate the necessity of rationing supplies of sugar in the country, as has been done already in Australia and U.S.A. this year, and on the other enable it to export sugar to other countries like Afghanistan, Nepal, Tibet, Burma, S.-E. Persia, Pakistan, etc.

We fervently hope that the Governments in the Provinces as well as at the Centre will earnestly help the industry in its endeavour to maximise sugar production in the years to come.

---

* *Vide* Mr. M. P. Gandhi's "Problems of Sugar Industry in India—Scope and Prospects of Re-organisation in the Post-War Period", being a comprehensive and critical survey of the industry since the grant of protection in 1932, and outlining the scope of optimum production and consumption of sugar in India in the post-war period, with a foreword by Sir Purshotamdas Thakurdas, pp. 425; price Rs. 12 December 1945.

SPUN R. C. C. POLES AND LAMP STANDARDS



1 Extensively used and found satisfactory by the Supply Stores and Telegraph Departments of the Government of India, Provincial Governments, Military Department, Railways, well-known Transmission Firms, etc.

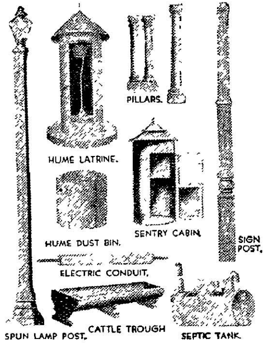
2 They are Permanent, requiring no maintenance, replacement or painting.

3 Used for Transmission, Traction, Communication and Lamp Standards.

FACTORIES ALL OVER INDIA, BURMA AND CEYLON

The Indian Hume Pipe Company Limited

Head Office :—
CONSTRUCTION HOUSE, BALLARD ESTATE, BOMBAY
Telephone: 32894 (3 Lines)



USE

HUME

PIPE

ARTICLES

Factories :

All over India and at Rangoon and Colombo

Write to :—The Indian Hume Pipe Co., Ltd.
Head Office —CONSTRUCTION HOUSE, BALLARD ESTATE, BOMBAY

APPENDIX

LIST OF SUGAR MILLS IN INDIA AND BURMA

WORKING AND PROJECTED

(1946-47)

THOROUGHLY REVISED AND BROUGHT UP-TO-DATE

10 Mills which fall in Pakistan are indicated accordingly. Of these, 6 are in Eastern Bengal, 2 in Western Punjab and 2 in the North-West Frontier Province.

If you would like any alteration
Please let us know without hesitation.
We will incorporate your suggestion
In this Annual's forthcoming edition.

Publishers :—**GANDHI & CO.** (*Publishers*),
Jan Mansion, Sir Pherozeshah Mehta Road,
FORT-BOMBAY

Telegrams: "KEEN", BOMBAY.

October, 1947.

Telephone: *Office*: 25961; 24047
Res.: 43926

LIST OF SUGAR MILLS (VACUUM PAN) IN INDIA, (1946-47)

(Working as well as Projected) = Those falling in Pakistan indicated accordingly

EXPLANATION :—

*Asterisk * in the last but one column denotes mills which have also got Gur-refining plants.*

† *Mills marked thus did not work during the 1946-47 season.*

‡ " " " *are reported to be under construction.*

"S" = Sulphitation. "DS" = Double Sulphitation. "C" = Carbonatation. "DC" = Double Carbonatation process of manufacture.

—Those Mills which fall in Pakistan are marked **PAK** in the last column.

Name of Mill, with full name and address of Managing Agents or Proprietors	*Location*	*District*	*Nearest Railway Station & Name of Rly. Administration*	*Nearest Steamer Station*	*Daily cane-crushing capacity (tons)*	*Process of manufacture*
1	2	3	4	5.	6	7
	BENGAL					
1. North Bengal Sugar Mills Co., Ltd., M/A. M/S. Soorajmull Nagarmull, 8, Dalhousie Square East, Calcutta Tele { Grams : Sugar, Calcutta. Phone : Cal. 2871–2879.	Gopalpur. (Tel. Sugar, Gopalpur, Rajshahi.)	Rajshahi.	Gopalpur, B. A. R.	Saraghat.	1250*	DS **PAK**
2. Setabganj Sugar Mills, Ltd., M/A. M/S. Soorajmull Nagarmull, 8, Dalhousie Square East, Calcutta. Tele { Grams : Sugar, Calcutta. Phone : Cal. 2871–2879.	Setabganj. (Tel. Sugar, Setabganj, Dinajpur.)	Dinajpur.	Setabganj, Do.	Manihari.	800*	DS **PAK**
3. Shree Radha Krishna Sugar Mills, Ltd., Lessees: Bengal Pioneer Agriculture Farm Ltd. 138, Harrison Road, Calcutta. Tele { Grams : Sugarsweet, Cal. Phone : B. B. 2203.	Beldanga. (Tel. Sugarsweet, Beldanga.)	Murshidabad.	Beldanga, Do.	Lalgola, B. A. R.	750	DS

4. The Ramnugger Cane & Sugar Co., Ltd., M/A. M/S. Anderson, Wright & Co., 7, Wellesley Place, Calcutta. Tele { Grams : Amasis, Calcutta. Phone : Calcutta 4300.	Plassey, P. O.	Nadia.	Plassey.	Do.	500/700	DS
5. Carew & Co., Ltd., M/A. M/S. Lyall Marshall & Co., 4, Fairlie Place, Calcutta. Tele { Grams : Ghat, Calcutta. Phone : Calcutta 168.	Darsana.	Do.	Darsana.	Do.	1500	DS **PAK**
6. †The Desbandhu Sugar Mills, Ltd., M/A. The Industrial Agency, 58, Patuatuly, Dacca.	Charsindur.	Dacca.	Ghorashal (Flag), B. A. R.	Sultanpur-ghat.	250	DS **PAK**
7. †Kaligunj Sugar Mills, Ltd., Head Office : 178, Harrison Road, Calcutta.	Kaligunj, P. O. (Tel. Chinikul, Arikhola, B. A.)	Do.	Arikhola, Do.	Ronaldsay Ghat, Kaliganj.	150	DS **PAK**
8. †Dass Sugar Corporation Ltd., M/A. Dass Brothers, 29, Strand Road, Calcutta. Tele { Grams : Marvellous, Cal. Phone : Calcutta 3385 (3 lines).	P. O. Kishorganj. (Tel. Dayamayee, Kishorganj).	Mymen-singh.	Kishorganj, Do.	—	400	DS **PAK**
9. †Rajluxmi Sugar Mills, M/A. Kartick Bose & Sons, Dr. Bose's Laboratory, Ltd., 45, Amherst Street, Calcutta. Tele { Grams : Lactic, Calcutta. Phone : B. B. 415.	Maitra Bagan, Basirhat.	24 Parganas.	Maitra Bagan, Ry. Siding, B. B. L. R.	—	75	S

[6 of the Bengal Mills go to Pakistan]

BIHAR

1	2	3	4	5	6	7
1. Sakri Sugar Factory of The Darbhanga Sugar Co., Ltd., Registered Office: Lohat P. O. Dist. Darbhanga. Tele { Grams: Sugar, Lohat. Phone: Darbhanga 53A.	Sakri P. O. (Tel. Sakri Factory, Sakri. Telephone: Darbhanga 53.)	Darbhanga.	Sakri, O. & T. Rly.	Semaria Ghat.	700	S
2. Lohat Sugar Factory of The Darbhanga Sugar Co., Ltd., Registered Office: Lohat P. O. Dist. Darbhanga. Tele { Grams: Sugar, Lohat. Phone: Darbhanga 53A.	Lohat P. O. (Tele. Lohat Factory, Lohat. Telephone: Darbhanga 53A.)	Do.	Pandaul, O. & T. R. (Goods: Lohat Siding).	Do.	1300	S
3. Ryam Sugar Co., Ltd., M/A. Begg, Sutherland & Co., Ltd., P. O. Box No. 21, Cawnpore. Tele { Grams: Begg, Cawnpore. Phone · Cawnpore 2313.	Ryam Factory P. O. (Tel. Ryam Factory, Tarsarai.)	Do.	Tarsarai.	Do.	779	C 4
4. Samastipur Central Sugar Co., Ltd., M/A. Begg, Sutherland & Co., Ltd., P. O. Box No. 21, Cawnpore. Tele { Grams: Begg, Cawnpore. Phone: Cawnpore 2313.	Samastipur (Tel. Central-Samastipur.)	Do.	Samastipur, O. & T. Rly.	Do.	795	S
5. New India Sugar Mills, Ltd., M/A. Cotton Agents Ltd., 8, Royal Exchange Place, Calcutta. Tele { Grams: Cotagent, Calcutta. Phone: Cal. 562.	Hassanpur Rd. P.O. Hassanpur Sugar Mill, (Tel. "Birla," Hassanpur Sugar Mills.)	Do.	Hassanpur Road, Do.	Do.	1100/1300	DS

6. Motipur Sugar Factory, Ltd., M/D. Seth Haji Abdul Rahim Oosman, 2, Rajmohan Street, Calcutta. Tele { Grams: Muslim, Calcutta. Phone: B. B. 2460.	Motipur. (Tel. Sattar, Motipur and Talabgar, Muzaffarpur. Phone: Muzaffarpur 65.)	Muzaffarpur	Motipur,	Do.	Paleza Ghat.	1300	DC
7. Belsund Sugar Co., Ltd., M/A. James Finlay & Co., Ltd., 1, Clive Street, Calcutta. Tele { Grams: Mercator, Cal. Phone: Calcutta 4600.	Righa P. O. (Tel. Mitha, Righa).	Do.	Riga,	Do.	Semaria.	850	DS
8. Champarun Sugar Co., Ltd., Barrah Factory, M/A. Begg, Sutherland & Co., Ltd., P. O. Box No. 21, Cawnpore. Tele { Grams: Begg, Cawnpore. Phone: Cawnpore 2313.	Bara-Chakia P. O. (Tel. Cane, Bara-Chakia)	Champarun.	Chakia,	Do.	Paleza Ghat.	932	C
9. Shree Hanuman Sugar Mills, Ltd., M/A. Shree Hanuman Investment Co., Ltd., 178, Harrison Road, Calcutta. Tele { Grams: Hopwoda,—Cal. Phone: B. B. 4501 (3 lines).	Motihari. (Tel. Sugar, Motihari, Telephone No. 60.)	Do.	Motihari,	Do.	Paleza Ghat.	800	DC
10. The Sugauli Sugar Works, Ltd., M/D. Mr. Md. Hanif & Mr. Amjadali, 3 & 5, Rajmohan Street, Calcutta.	Sugauli. (Tel. Taj, Sugauli.)	Do.	Sugauli,	Do.	Do.	900	DS
11. Motilal Padampat Sugar Mills, Co., Ltd., H. O. Kamla Tower, Cawnpore. Tele { Grams: Motipat, Cawnpore. Phone: 2532–34.	Majhaulia. (Tel. Motipat, Majhaulia.)	Do.	Majhaulia,	Do.	Do.	1000	DS
12. Champarun Sugar Co., Ltd., Chanpatia Fac. M/A. Begg, Sutherland & Co., Ltd., Post Box No. 21. Tele { Grams: Begg, Cawnpore. Phone: Cawnpore 2313.	Chanpatia. (Tel. Chansuco Chanpatia.)	Do.	Chanpatia,	Do.	Do.	870	S

1	2	3	4	5	6	7
13. S. K. G. Sugar Ltd., M/A. Dalmia Jain & Co., Ltd., Dalmianagar, Sahabad. Tele { Grams : Dalmiajain, Dalmianagar. Tele { Phone : Dalmianagar 8.	Lauriya P. O. (Tele. Dalmia- jain, Lauriya.)	Champarun	Chanpatia, O. & T. R.	Paleza Ghat.	650	DS
14. The New Swadeshi Sugar Mills, Ltd., M/A. Cotton Agents Ltd., (1) 8, Royal Exchange Place, Calcutta. Tele { Grams : Cotagent, Calcutta. Tele { Phone : Cal. 562. (2) Imperial Bank Building, Bank Street, Bombay. Tele { Grams : Lucky, Bombay. Tele { Phone : Bombay 27046.	Narkatiagunj (Tel. Birla, Narkatiagunj.)	Do.	Narkatiaganj, Do.	Do.	900	DS
15. Harinagar Sugar Mills, Ltd., M/A. Narayanlal Bansilal, 207, Kalbadevi Road, Bombay 2. Tele { Grams : Cryssugar, Bombay. Tele { Phone : Bombay 30841.	P. O. Harinagar Sugar Mills. (Tel. Maryada, Ramnagar, Champarun.)	Do.	Harinagar, Do.	Do.	1400/1500	DS
16. Ganga Devi Sugar Mills, Ltd., M/A. Marwari Brothers, Naraipore, Bagaha P. O. (Tele. Ganga, Bagaha).	Naraipur P. O.	Do.	Bagaha, Do.	Do.	650	DS
17. Gaya Sugar Mills, Ltd., Managing Director: Lala Guru Sharan Lal, C.I.E., 15, Clive Street, Calcutta. Telephone : Calcutta 1457.	Guraru P. O. Guraru Mills. (Tel. Sugarmills, Gaya. Telephone : Gaya 78.)	Gaya	Guraru, E. I. R. Patna.		850	DS

18. †Gaya Sugar Mills, Ltd., Managing Director: Lala Guru Sharan Lal, C.I.E., 15, Clive Street, Calcutta. Telephone: Cal. 1457.	**Warisaliganj.** **(Tel.** Sugarmills, **Warisaliganj.)**	Do.	Warisaliganj, Do.	Do.	2000	DC & DS
19. The South Bihar Sugar Mills, Ltd., M/A. N. K. Jain & Co., Ltd., 9, Clive Street, Calcutta. Tele { Grams: Ibagencies, Cal. Tele { Phone: Calcutta 5977. Sugar Factory now under Lessees: M/S. Jagdishpore Zamindary Co., **Ltd.,** Devashram, Arrah. Tele { Grams: Jineswar, Arrah. Tele { Phone: Arrah 14.	Bihta. (Telegrams: Sugar, Bihta Phone: Dinapore, 30.) Telegrams: Jineshwar, Bihta.	Patna.	Bihta, Do.	Digha.	1200	DS
20. Mohini Sugar Mills, Ltd., M/A. M/S. Karamchand **Thapar & Bros. Ltd.,** 5, Royal Exchange Place, Calcutta. Tele { Grams: Spiritual, Calcutta. Tele { Phone: Cal. 2331/2.	*Bikramganj* P. O. Bikramganj. (Tel. Spiritual Bikramganj.)	*Shahabad.*	*Bikramganj,* A. S. L. Ry.	Sinha 40 Miles; Buxar 40 Miles.	700	DS
21. Rohtas Industries, Ltd., M/A. M/S. Dalmia Jain & Co., Ltd., P. O. Dalmianagar (Shahabad). Tele { Grams: Dalmiajain, **Dalmianagar.** Tele { Phone: Dalmianagar 8.	P.O. Dalmianagar.	Do.	*Dehri-on-Sone,* E. I. R.	Buxar.	1800	DC & DS
22. †Ganga Deshi Sugar Factory, Ltd., M/D. Mr. Behari Lal, Buxar, (Tel. Sugar, Buxar).	Buxar. P. O. Buxar- Gajadharganj.	Do.	Buxur, E. I. R.	Buxar.	100*	S
23. Sitalpore Sugar Works, Ltd., M/D. M/S. H. K. Ghosh & **T. N. Dutta,** (1) 93A, Dharamtolla Street, **Calcutta.** Telephone: Calcutta 2622. (2) Indian Press Buildings, **Allahabad.** (Local office: Sahibāganj, **Chapra).**	Sitalpore. (Tel. Kamala, Sitalpore, O. & T.)	Saran.	Sitalpore, O. & T. Rly.	Baghi.	800	DS

1	2	3	4	5	6	7
24. Cawnpore Sugar Works, Ltd., Marhowrah Factory, M/A. Begg, Sutherland & Co., Ltd., P. O. Box. No. 21, Cawnpore. Tele { Grams : Begg, Cawnpore. Phone : Cawnpore 2313.	Marhowrah. (Tel. Marsuco, Marhowrah).	Saran.	Marhowrah, O. & T. R.	Revelganj.	939	DC
25. †Maharajganj Sugar Factory, Prop. M/S. Tulsiram Bhagawandas, 61, Keshab Chandra Sen Street, **Calcutta.** Telephone : B. B. 311.	Maharajganj.	Do.	Maharajganj, Do.	Revelganj.	400	DS
26. The Behar Sugar Works, of the Industrial Corporation, Ltd., M/A. Bakubhai Ambalal & Co., P. B. 28, Ahmedabad. Tele { Grams : Idus, Ahmedabad. Phone : Ahmedabad 5001. H. O. Bastion Road, Fort, Bombay. Tele { Grams : Indus, Bombay. Phone : Bombay, 22497.	Pachrukhi. (Tel. Indus, Pachrukhi.)	Do.	Pachrukhi, Do.	Paleza Ghat.	1100	DC
27. New Savan Sugar & Gur Refining **Co., Ltd.** Lessees : M/S. Karamchand Thapar & Bros., Ltd. 5, Royal Exchange Place, Calcutta. Tele { Grams : Spiritual, Calcutta. Phone : Calcutta 2331-2.	Siwan. (Tel. Sugar, Siwan).	Do.	Savan, Do.	Siswan Ghat, O. A.	900	DS
28. Indian Sugar Works, Lessee : Shaikh Khoda Bakhsh, P. O. Siwan, Dist. Saran. (Tel. **Deen, Siwan.**)	Siwan.	Do.	Do. Do.	Savan, O. A.	700	DS
29. Bharat Sugar Mills, Ltd., M/A. Cotton Agents Ltd., 8, Royal Exchange Place, Calcutta. Tele { Grams : Cotagent Calcutta. Phone : Calcutta, 562.	Sidhwalia, (Tel. Birla, Sidhwalia).	Do.	Sidhwalia, Do.	Revelganj & Paleza Ghat.	650	DS

30.	Sasa Musa Sugar Works, Ltd., M/A. Mousell & Co., Ltd., P. B. 2164, Calcutta. Tele { Grams : Diogenes, Calcutta. Phone : Calcutta 2666.	Sasa Musa. (Tel. Factory, Sasa Musa.)	Do.	Sasa Musa, Do.	Paleza Ghat.	600	DS
31.	The Vishnu Sugar Mills, Ltd., M/A. Bilasrai Banarsilal & Co., Agakhan Bldg., Dalal Street, Fort, **Bombay.** (Tel. Brijbilas-Bombay).	Gopalganj. (Tel. Vishnu, Gopalganj.)	Do.	Harkhua, Do.	Revelganj.	800	DS
32.	S. K. G. Sugar Ltd., M/A. Dalmia Jain & Co., Ltd., P. O. Dalmianagar, Dist. Shahabad. Tele { Grams : Dalmiajain, **Dalmianagar.** Phone : Dalmianagar 8.	Hathua. P. O. Mirganj. (Tel. Dalmia- jain, Mirganj. Phone— Hathwa 4 & 5.)	Do.	Hathua, Do.	Paleza Ghat.	1400/1500	DS

UNITED PROVINCES

1.	Purtabpore Co., Ltd., M/A. Begg, Sutherland & Co., Ltd., P. O. Box No. 21, Cawnpore. Tele { Grams : Begg, Cawnpore. Phone : Cawnpore 2313.	Mairwa (Tel. Sucrose, Mairwa).	Deoria.	Mairwa, O. & T. Rly.	Revelganj.	784	DC
2.	Noori Sugar Works, Prop. Noori Mian & Co., Bhatni. (Tel. Noori, Bhatni).	Bhatni.	Do.	Bhatni, Do.	Barhaj.	726	DS
3.	Shree Sitaram Sugar Co., Ltd., M/A. Karamchand Thapar & Bros., **Ltd.,** 5, Royal Exchange Place, Calcutta. Tele { Grams : Spiritual, Calcutta. Phone : Calcutta 2331/2.	Baitalpur. P. O. Deoria. (Tel. Spiritual, Baitalpur, Deoria.)	Do.	Baitalpur, Do.	Do.	861	DS

1	2	3	4	5	6	7
4. Cawnpore Sugar Works, Ltd., Gauri Factory, M/A. Begg, Sutherland & Co., **Ltd.**, P. O. Box No. 21, Cawnpore. Tele { Grams : Begg, Cawnpore. Phone : Cawnpore 2313.	Gauribazar, P.O. (Tel. Gaursuco, Gauribazar.)	Deoria.	Gauribazar, O. & T. Rly.	Barhaj.	738	DS
5. Deoria Sugar Mills, Ltd., M/A. Karamchand Thapar & Bros., **Ltd.**, 5, Royal Exchange Place Calcutta. Tele { Grams : Spiritual, Calcutta. Phone : Calcutta 2331/2.	Deoria (Tel. Spiritual, Deoria.)	Do.	Deoria Sadar, Do.	Do.	900	DS
6. †Sind National Sugar Mills, Ltd., Proprietors: M/S. Shree Sitaram Sugar Co., Ltd., & M/S. Deoria Sugar Mills, Ltd., Managing Agents : M/S. Karamchand Thapar & Bros., Ltd. 5, Royal Exchange Place, Calcutta. Tele { Grams : Spiritual Calcutta. Phone : Calcutta 2331/2.	Deoria. (Tel. National. Deoria.)	Do.	Do. Do.	Do.	351	DS
7. Saraya Sugar Factory, Managing Partner : Sardar Sir Surendra Sing Majithia, Kt., Sardarnagar. Tele { Grams : Majithias, Sardarnagar. Phone : Gorakhpur 88.	Sardarnagar.	Gorakhpur.	Sardarnagar, Do.	Do.	2129	DS
8. Diamond Sugar Mills, Ltd., M/A. Murarka & Sons, Ltd., 4-E, Dalhousie Square, Stephen House, Calcutta. Tele { Grams : Canesugar, Calcutta. Phone : Calcutta 1003 & 1349.	Pipraich, (Tel. Diamond, Pipraich, O. & T.)	Do.	Pipraich, Do.	Do.	700/800	DS

9.	Pipraich Sugar Mills, Ltd., M/A. Mr. Mohammad Ashfaq, B.A., General Manager.	Pipraich. (Tel. Pipraichmill, Pipraich. Phone: Gorakhpur, 25.)	Do.	Do.	Do.	Do.	300	S
10.	The Shankar Sugar Mills, Ltd., M/A. Inderchand Hariram, Captainganj.	Captainganj. (Tel. Sugar. Captainganj.)	Deoria.	Captainganj,	Do.	Do.	896	DS
11.	The Punjab Sugar Mills, Co., Ltd., Managers: M/S. Narang Bros. & Co., Ltd. 3, Montgomery Road, Lahore. Tele { Grams: Narang, Lahore. Phone: Lahore 3717.	Ghughli. (Tel. Factory, Ghughli R. S.)	Gorakhpur.	Ghughli,	Do.	Do.	869	DS
12.	Mahabir Sugar Mills, Ltd., M/A. Dwarkadas Baijnath, Siswa Bazar.	Siswa Bazar. (Tel. Mahabirji, Siswa Bazar.)	Do.	Siswa Bazar,	Do.	Do.	620	DS
13.	The Vishnu Pratap Sugar Works, Ltd., M/D. Raja Bahadhur Raja Braj Narain Singh, C.B.E., Padrauna Raj. (Tel. Sugar, Rajabazar, Khadda).	Khadda.	Deoria.	Khadda,	Do.	Do.	761	DS
14.	The Lakshmi Devi Sugar Mills, Ltd., M/A. Messrs. Agarwal & Co., P. O. Chhitauni. Telephone: Padrauna 3.	Chhitauni.	Deoria	Chhitauni,	Do.	Barhaj.	700/750	DS
15.	Ishwari Khetan Sugar Mills, Ltd., M/A. Devidutt Surajmull, Padrauna, Deoria. Tele { Grams: Khetan, Padrauna. Phone: Padrauna 3.	Lakshmiganj. (Tel. Khetan, Lakshmiganj. Telephone: Padrauna 4x.)	Do.	Lakshmiganj,	Do.	Do.	732*	DS
16.	The Ramkola Sugar Mill Co., Ltd., H. O. Nawashahr (Hazara) *via* Abbottabad. Tele { Grams: Timber, Nawashahr (Hazara.) Phone: Abbottabad 31.	Ramkola. (Tel. Sugar, Ramkola. Phone: Padrauna 18.)	Do.	Ramkola,	Do.	Revelganj.	900	DS

	1	2	3	4	5	6	7
17.	Maheshwari Khetan Sugar Mills, Ltd., M/A. Messrs. Devidutt Chaturbhuj, P. O. Ramkola. Tele. Khetan, Ramkola.	Ramkola. (Telephone: Padrauna 4.)	Deoria.	Ramkola, O. & T. Rly.	Barhaj.	779	DS
18.	Padrauna Rajkrishna Sugar Works, Ltd., M/D. R. B. Kr. Rudra Pratap Narain Singh, "Jagdis Garh", Padrauna. Tele { Grams: Krishna, Padrauna, Phone: Padrauna 7.	Padrauna. (Telephone: No. 6.)	Do.	Padrauna, Do.	Do.	800	S
19.	Jagadish Sugar Mills, Ltd., M/A. Raja Bahadur Brijnarayan Singh & Co., Padrauna. Tele { Grams: Jagadish, Padrauna. Phone; Padrauna 15.	Kathkuiyan. (Padrauna P.O.)	Do.	Kathkuiyan, Do.	Do.	650	DS
20.	The United Provinces Sugar Co., Ltd., M/A. James Finlay & Co., Ltd., 1, Clive Street, Calcutta. Tele { Grams: Mercator, Calcutta. Phone: Calcutta 4600.	Seorahi P.O. (Tele. Chini-Seorahi.)	Do.	Tamkohi Road, Do.	Do.	925	DS
21.	Ganesh Sugar Mills Ltd., M/A. Poddar Jaipuria & Co., Jaipuria Concern, 100, Clive Street, Calcutta. Tele { Grams: Jaipuria, Calcutta. Phone: Burra Bazar 4100 & Cal. 2469.	P.O. Anandnagar. (Tele. Ganesh-Pharenda. O. & T.)	Gorakhpur.	Pharenda, Do.	Do.	900	DS
22.	†Shree Sardar Sugar Mills Co., Proprietors: Champalal Dhanpat Singh, Head Office: 11, Armenian Street, Calcutta. Phone: B. B. 2604.	Ramchandri. P. O. Nichloul.	Do.	Siswa Bazar, Do.	Do.	80	DS
23.	The Madho Kanhaya Mahesh Ghouri Sugar Mills, Ltd.	Munderwa. (Tel. Jagdish, Munderwa.)	Basti.	Munderwa, Do.	Do.	700/800	DS

24.	Basti Factory of— The Basti Sugar Mills Co., Ltd., M/A. Narang Bros. & Co., Ltd., 3, Montgomery Road, Lahore. Tele { Grams : Narang, Lahore. Phone : Lahore 4614.	Basti. (Tel. Factory, Basti.)	Do.	Basti,	Do.	Ajodhyaghat.	900/1000	DC
25.	Walterganj Factory of— The Basti Sugar Mills Co., Ltd., M/A. Narang Bros. & Co., Ltd., 3, Montgomery Road, Lahore. Tele { Grams : Narang, Lahore. Phone : Lahore 4614.	Walterganj. (Tel. Sugar, Walterganj.)	Do.	Walterganj,	Do.	Do.	800/850	DS
26.	Barhni Sugar Mills, Proprietors : The Delhi Cloth & General Mills Co., Ltd., Delhi. Tele { Grams : Yarn, Delhi. Phone : Delhi 5243.	Barhni. P.O. Ramduttganj. (Tel. Sugar, Barhni, O. & T.)	Do.	Barhni,	Do.	Barhaj.	800/1000	DS
27.	Shree Anand Sugar Mills Ltd., M/A. Agarwal Sugar Agents Ltd., Jaipuria Concern, 100, Clive Street, Calcutta. Tele { Grams : Jaipuria, Calcutta. Phone : B. B. 4100 & Cal. 2469.	Khalilabad. (Tel. Shreeanand, Khalilabad.)	Do.	Khalilabad,	Do.	Do.	650	DS
28.	The Seksaria Sugar Mills, Ltd., M/A. Govindram Ramnath & Co., Seksaria Chambers, 139, Medows Street, Fort, Bombay. Tele { Grams : Fairtrade, Bombay. Phone : Bombay 34627.	Babhnan. (Tel. Seksariaco, Babhnan.)	Gonda.	Babhnan,	Do.	Do.	800	DS
29.	Nawabganj Sugar Mills Co., Ltd., M/A. Narang Bros. & Co., Ltd., 3, Montgomery Road, Lahore. Tele { Grams : Narang, Lahore. Phone : Lahore 4614 & 3717.	Nawabganj. (Tel. Sugarmills, Nawabganj. Gonda.)	Do.	Nawabganj,	Do.	Ajodhyaghat.	1850	DS

	1	2	3	4	5	6	7
30.	Balrampur Sugar Co., Ltd., Balrampur Factory, M/A. Begg, Sutherland & Co., Ltd., P. O. Box No. 21, Cawnpore. Tele { Grams : Begg, Cawnpore. Phone : Cawnpore 2313.	Balrampur. (Tel. Balsuco, Balrampur. Telephone : Balrampur 37.)	Gonda.	Balrampur, O. & T. Rly.	Barhaj.	768	DS
31.	Balrampur Sugar Co., Ltd., Tulsipur Factory, M/A. Begg, Sutherland & Co., Ltd., P. O. Box No. 21, Cawnpore. Tele { Grams : Begg, Cawnpore, Phone : Cawnpore 2313.	Tulsipur. (Tel. Talsuco, Tulsipur.)	Do.	Tulsipur, Do.	Ajodhyaghat.	746	DS
32.	R. B. Seth Lachmandas Mohanlal & Sons Sugar Mills, Hd. Office: Shahalmi Gate, Lahore. Tele { Grams : Laxmansons, Lahore. Phone : Lahore 3709.	P.O. Jarwal Rd. (Tel. Laxmansons, Jarwal Road. Telephone : Gonda 16.)	Bahraich.	Jarwal Road, Do.	Do.	860	DS
33.	The Burhwal Sugar Mills, Co., Ltd., Managing Directors : (1) Pt. Durga Shankar Dixit, (2) Lala Daya Ram, Collectorganj, Cawnpore. Tele { Grams : Busumills, Cawnpore. Phone : Cawnpore 2758.	Burhwal. (Tel. Busumills, Burhwal.)	Barabanki.	Burhwal, Do.	Do.	650*	DS
34.	Seth Ramchand & Sons Sugar Mills, Barabanki.	Barabanki. (Tel. Malaco, Barabanki. Phone: Lucknow 859.)	Do.	Barabanki, O. & T. & E.I. Rly.	Do.	793*	DS
35.	Ratna Sugar Mills Co., Ltd., M/A. Kashiprasad & Co., 107, Streat Field Road, Benares City. (Tel. Ratna, Benares.)	Shahganj. (Tel. Ratna, Shahganj, Jaunpur.)	Jaunpur.	Shahganj, Do.	Balia.	751	DS

36.	†Shree Krishna Deshi Sugar Works, Lessees : Jai Narain Pershad & Co., Jhusi (Allahabad).	Jhusi. (Tel. Sugarmills, Jhusi. Phone: Allahabad 269.)	Allahabad.	Jhusi, O. & T. Rly.	Do.	600*	DS
37.	†Tribeni Deshi Sugar Works, Lessee: L. Jainarain Prasad Agarwal. (Tel. Madho, Naini.)	Naini.	Do.	Naini, E.I.R. & G.I.P. Rly.	Buxar.	300*	S
38.	The Lakshmi Sugar & Oil Mills Ltd., Head Office : Hardoi. M/A. Rai Bahadur Bansidhar Son & Co.	Hardoi. (Tel. Lakshmi, Hardoi.)	Hardoi.	Hardoi, E.I.Rly.	Do.	1565	DS
39.	The Seksaria Biswan Sugar Factory, Ltd., M/A. Govindram Bros., Ltd., Seksaria Chambers, 139, Medows Street, Fort, Bombay. (Tel. "Fairtrade,"Bombay.)	Biswan. (Tel. Factory, Biswan.)	Sitapur.	Biswan, O. & T. Rly.	Ajodhyaghat.	1200 (Double Tandem)	S
40.	The Oudh Sugar Mills Ltd., M/A. Cotton Agents Ltd., (1) Imperial Bank Building, Bank Street, Bombay. Tele { Grams : Lucky, Bombay. Phone : Bombay 27046—4 lines; & 33745. (2) 8, Royal Exchange Place, Calcutta. Tele { Grams : Cotagent, Calcutta. Phone : Calcutta 562.	Hargaon. (Tel. Osmills, Hargaon Sugar Mills. Telephone: Sitapur 2.)	Do.	Hargaon, Do.	Do.	1925	DS
41.	The Lakshmiji Sugar Mills Co., Ltd., M/D. Seth Kishorilal Saheb, Maholi (Dt. Sitapur.)	Maholi. (Tel. Lakshmi-Maholi. Phone: Sitapur 5.)	Do.	Maholi, E. I. R.	Buxar.	1250	DS

1	2	3	4	5	6	7
42. Aira Sugar Factory, Prop. Indra Singh & Sons, Ltd., Tatanagar. Tele { Grams: Indrasingsons, Tatanagar. Phone: Tatanagar 18.	Khamaria. P. O. Aira Estate, (Tel. "Aira", Lakhimpore-Kheri).	Kheri.	Lakhimpore-Kheri, O. & T. Ry.	Bahramghat.	650	DS
43. The Hindusthan Sugar Mills, Ltd., M/A. Bachhraj & Co., Ltd., Jehangir Wadia Building, 51, Mahatma Gandhi Road, Fort, Bombay. Tele { Grams: Shree, Bombay. Phone: Bombay 30027.	Golagokaran Nath. (Tel. Shree, Golagokaran Nath, Kheri. Telephone No. 1, Golagokaran Nath).	Do.	Golagokaran Nath, Do-	Do.	1950	DS
44. Rosa Sugar Works & Distillery of Carew & Co., Ltd., M/A. Lyall Marshall & Co., 4, Fairlie Place, Calcutta. Tele { Grams: Ghat, Calcutta. Phone: Cal. 168.	Rosa. (Telegram: Carew, Rosa. Telephone: 36.)	Shahjahan-pur.	Rosa Jn., E.I.R.	...	725*	DS
45. H. R. Sugar Factory, Ltd., M/D. Sahu Ram Bharose Lal Sahib, Nekpur, Bareilly.	Bareilly. (Tel. Sugar, Bareilly. Telephone No. 33, Bareilly.)	Bareilly.	Bareilly Jn., E. I. R. & O. & T. Rly.	Buxar.	902	DS
46. The Kesar Sugar Works, Ltd., M/A. Kilachand Devchand & Co., 45/47, Appollo Street, Bombay. Tele { Grams: Seeds, Bombay. Phone: Bombay 26506.	Baheri. (Tel. Kesar, Baheri).	Do.	Baheri, O. & T. Rly.	Barhaj.	1280	DS
47. §L. H. Sugar Factories & Oil Mills, Ltd., M/D. Sahu Jagadish Prasad, Pilibhit. Telephone: Pilibhit 32 and 31.	Pilibhit. (Tel. Crystal, Pilibhit, Phone: Pilibhit 32.)	Pilibhit.	Pilibhit, Do.	...	1750 (Double Tandem).	S

§ Both the units working.

48.	Upper Ganges Sugar Mills, Ltd., M/A. Cotton Agents, Ltd., 8, Royal Exchange Place, Calcutta. Tele { Grams : Cotagent, Calcutta. Phone : Cal. 562.	Seohara. (Tel. Birla, Seohara.)	Bijnor.	Seohara,	E. I. R.	Buxar.	1350	DS
49.	Seth Shiv Prasad Banarsidas Sugar Mills, Lessee : Seth Banarsi Das Gupta.	Bijnor. (Tel. Sugar, Bijnor).	Do.	Bijnor,	Do.	Do.	1100/1200	DS
50.	The Dhampur Sugar Mills Ltd., Managing Directors:— (1) Sahu Ram Bharosey Lal Saheb. (2) Sahu Ram Swarup Saheb. (3) R. S. Kr. Murli Manohar Saheb. 13, Civil Lines Bareilly, (Telephone : Bareilly, 53.)	Dhampur. (Tel. Sugar Mills, Dhampur).	Do.	Dhampur,	E. I. Rly.	Do.	900	DS
51.	The Vijai Lakshmi Sugar Mills, Ltd. M/D. Seth Mathra Parshad. D/I. Seth Radhey Lal, Doiwala	Doiwala. (Tel. Lakshmi, Doiwala. Telephone : Dehra- Dun 564.)	Dehra-Dun.	Doiwala,	Do.	Karachi.	520*	DC & DS
52.	The Ganga Sugar Corporation Ltd. College Road, Rawalpindi, Chairman: R. B. L. Isher Dass, M.A., LL.B., Tele { Grams : Gansuco, Rawalpindi, Phone : Rawalpindi, 641.	Deoband. (Tel. Sugar, Deoband, Telephone : Deoband 23.)	Saharanpur.	Deoband,	N. W. R.	Do.	800/1000	DC & DS
53.	Rai Bahadur Narain Singh Sugar Mills Ltd. M/D. Sardar Rajdev Singh, 2, Curzon Road, New Delhi. (Telephone: Delhi, 7617.)	Lhaksar. (Tel. Sugar, Lhaksar Jn., E. I. Telephone : Roorkee 35).	Do.	Lhaksar,	E. I. R.	Do.	1250	DS

	1	2	3	4	5	6	7
54.	The Lord Krishna Sugar Mills, Ltd., Regd. Office: 17, Lawrence Road, Lahore. M/D. Seth Shiv Prasad. Tele { Grams : Bindal, Lahore. Phone : Lahore 2865.	Saharanpur. (Tel. Sugar, Saharanpur. Telephone: Saharanpur, 3 & 3A).	Saharanpur.	Saharanpur, N. W. R.	Buxar.	1250	DS
55.	Sir Shadi Lal Sugar & General Mills Ltd. M/A. Hariraj Swarup, Rajendralal & Bros., Muzaffarnagar. Tele { Grams : Swesugmill, Muzaffarnagar. Phone : Muzaffarnagar 32.	Mansurpur. (Tel. Swesugmill, Mansurpur. Telephone: Mansurpur 44 & 69)	Muzaffar- nagar.	Mansurpur, Do.	Karachi.	1000/1200	DS
56.	Upper India Sugar Mills, Ltd., M/D. Rai Saheb P. Srikrishna Deva Bhargava. M/A. Mitra Mandal Khatauli, Tele { Grams : Sugar, Khatauli Phone : Muzaffarnagar 96.	Khatauli. (Telephone : Muzaffarnagar 96.)	Do.	Khatauli, Do.	...	1149/1400	DS
57.	Amritsar Sugar Mills, Co., Ltd., M/A. Amar Singh & Co., Amritsar (Punjab). Tele { Grams : Refiners, Amritsar. Phone : Amritsar 597.	Rohanakalan. P. O. Rohanamills. (Tel. Refiners, Muzaffarnagar. Phone: Muzaffarnagar 41.)	Do.	Rohanakalan, N. W. R.	Buxar.	1200	DS
58.	Upper Doab Sugar Mills, Ltd., M/A. Hariraj Swarup, Rajendralal Debi Prosad & Brothers, Muzaffarnagar. Tele { Grams : Swesugmill, Muzaffarnagar. Phone : Muzaffarnagar 85A and 32.	Shamli. (Tel. Sugarmills, Shamli. Telephone: Shamli 32.)	Do.	Shamli, S. S. L. R.	Bombay.	1429	DS

59.	Diwan Sugar Mills, Prop. Messrs. Dhanpatmal Diwanchand, Lyallpur (Punjab). (Tel. Dhandiwan, Lyallpur).	Diwannagar. P. O. Sakhoti-Tanda, Meerut. (Tel. Diwanmills, Sakhoti-Tanda, N. W. R. Phone: Muzaffarnagar 77.)	Meerut.	Sakhoti-Tanda, N. W. R.	Do.	716*	DS
60.	Daurala Sugar Works, Prop. The Delhi Cloth and General Mills Co., Ltd., Delhi. Tele { Grams: Yarn, Delhi. Phone: Delhi 5243.	Daurala. (Tel. Sugarworks, Daurala, N. W. Telephone: Meerut 452).	Meerut.	Daurala, Do.	...	1400	DC
61.	Jaswant Sugar Mills, Ltd., M/A. National General Agencies Ltd., 3, Temple Road, Lahore. Tele { Grams: Jasmills, Lahore. Phone: 2554, Lahore. Calcutta office: 12/A Ezra Mansions. 10, Government Place East, Calcutta.	Meerut City. (Telegrams: Godfearing. Telephone: Meerut 230.)	Do.	Meerut City, Do.	...	800/1100	DS
62.	Ram Luxman Sugar Mills, Managing Proprietors: (1) M/S. Dinanath Nanakchand, Chawri Bazar, Delhi. Tele { Grams: Ensey, Delhi. Phone: 5004 and 6906. (2) R. S. Chiranjilal & Sons, Sardar Bazar, Delhi. Tele { Grams: Consult, Delhi. Phone: 5011.	Mohiuddinpur. (Tel. Sugarmills, Mohiuddinpur, N. W. Telephone: Meerut 482).	Do.	Mohiuddinpur, Do.	Buxar.	600/800*	DS
63.	The Modi Sugar Mills Ltd., M/A. Rai Bahadur Multanimal & Sons Ltd.	Modinagar. (Tel. Modisugar, Modinagar. Phone: Meerut 513).	Do.	Modinagar, N.W.R.	Bombay.	1000	DS

	1	2	3	4	5	6	7
64.	Simbhaoli Sugar Mills, Ltd., Chairman : Sardar Raghbir Singh Sandhanwalia C.I.E., O.B.E. Tele { Grams : Sandhanwalia, Simbhaoli E.I.R. Phone : Hapur 77.	Simbhaoli, P. O. Baksar.	Do.	Simbhaoli, E.I.R.	...	800	DS
65.	The Gokulnagar Sugar Mills Co., Ltd., M/A. Sir Gokulchand Narang & Co., Ltd., 3, Montgomery Road, Lahore. Tele { Grams : Narang, Lahore. Phone : Lahore 4614.	Kichha. (Tel. Sugar Factory, Kichha.)	Naini-Tal.	Gokulnagar, O. & T. Rly.	Barhaj.	800	DS
66.	L. H. Sugar Factories & Oil Mills, Ltd., Director-in-charge : Kunwar Ram Raghbir Saheb, B.Sc.	Kashipur, (Tel. Crystal, Kashipur.)	Do.	Kashipur, Do.	Do.	650	DS
67.	The Neoli Sugar Factory, Props. The Saraswati Sugar Syndicate Ltd., P. B. No. 255, Lahore. Telegram : Sucrose, Lahore.	Manpore Nagaria, P. O. Neoli. (Tel. Sucrose, Neoli, Etah.)	Etah.	Manpore Nagaria, Do.	Do.	873	DS
68.	Kamlapat Motilal (Sugar Mills) Prop. Messrs. Kamlapat Motilal, P. B. 69, Cawnpore. Tele { Grams : Lalmoti, Cawnpore. Phone : 2315.	P. O. Motinagar. (Tel. Lalmoti, Fyzabad. Telephone No. 41, Fyzabad.)	Fyzabad.	Masodha, E. I. Rly. K. M. Sugar Mills Siding, E. I. Rly.	Ajodhyaghat.	Cane 1000 Gur 100	DS
69.	Experimental Sugar Factory, Imperial Institute of Sugar Technology.	Nawabganj.	Cawnpore.	Rawatpur, B.B. & C.I.R.	Buxar.	34*	
70.	Kundan Sugar Mills, Managing Proprietor : Seth Kundan Lal, Amroha, Dist. Moradabad.	Amroha, (Tel. Kundan, Amroha.)	Moradabad.	Amroha, E.I.R.	Do.	500	DS

71. The Ajudhia Sugar Mills, Prop. Lakshmiji Sugar Mills Co., Ltd., National House, The Mall, Lahore. Tele { Grams: Seth, Lahore. Phone: { Lahore 2467 (Residence). Lahore 2416 (Office).	P. O. Raja-Ka-Sahaspur. (Tel. Sugarmill, Moradabad. Phone: Moradabad 79. Raja-Ka-Sahaspur Special line.)	Do.	Raja-Ka-Sahaspur, E.I.R.	Do.	1305	DS

PUNJAB

1. The Gujranwala Sugar Mills Co., M/A. Narang Bros., Ltd., 3, Montgomery Road, Lahore, Singh & Co., Ltd., Civil Station, Gujranwala. Tele { Grams: Narang, Lahore. Phone: Lahore 4767.	Rahwali. (Tel. Sugarmill, Gujranwala. Telephone: Gujranwala 64).	Gujranwala.	Rahwali, N.W.R.	Karachi.	300/450	DS **PAK**
2. Saraswati Sugar Mills, M/D. Mr. D. D. Puri, Prop. The Saraswati Sugar Syndicate Ltd. 2, Fane Road, P. O. Box No. 255, Lahore. Tele { Grams: Sucrose, Lahore. Phone: Lahore 3034.	P. O. Abdullapur. (Tel. Saraswati, Abdullapur. Telephone: Jagadhri 27.)	Ambala.	Jagadhri, Do.	Buxar.	400	DC & DS
3. †The Pattoki Sugar Works, Pattoki. Prop. Seth C. K. Delliwala (Goa), Civil Lines, Bareilly, U. P.	Pattoki.	Lahore.	Pattoki, Do.	...	100	**PAK**

[2 of the Punjab Mills fall in Pakistan]

ORISSA

1. †Aska Sugar Works & Distillery, Prop. Messrs. Damodor Sahu and Brothers, (Tel. "Massecuite", Aska.)	Aska.	Ganjam.	Berhampur, B.N.R.	...	100/120*	
2. Jeypore Sugar Co., Ltd., M/D. Subba Rao, B.SC., C.P.E. (Glasgow), Rayagada (Dist. Koraput). (Tel. Jeysuco, Rayagada).	Rayagada.	Koraput.	Rayagada, Do.	Vizagapatam.	250	DS

MADRAS

1	2	3	4	5	6	7
1. The Vizagàpatam Sugar & Refinery, Ltd., Anakapalle. M/A. Messrs. Kantilal & Seth Ltd., 14, New Queens Road, Bombay.	Anakapalle. (Tel. "Sugars" Anakapalle)	Vizaga-patam.	Anakapalle, M. & S.M.Rly.	Vizagapatam.	225	DS
2. Etikoppaka Sugar Factory, M/A. The Etikoppaka Co-operative Agriculture & Industrial Society, Ltd. (Tel. Sugar Factory, Etikoppaka. *via* Narasapatam Road).	Etikoppaka.	Do.	Narasapatam Road, Do.	Do.	75	DS
3. The Sri Rama Sugar Mills, Ltd., Prop. Raja of Bobbili, Raja of Venkatagiri and others, Bobbili. (Tel. Sugar, Bobbili).	Bobbili.	Do.	Bobbili, B.N.R.	...	150	DS
4. The Sri Ram Sugar Mills Ltd., Seethanagaram.	Seethanagaram.	Vizaga-patam.	Seethanagaram, B.N.R.	...	300	DS
5. The K. C. P. Ltd., Proprietors of Vuyyuru Sugar Factory. (Tel. "Krushna", Vuyyuru).	Vuyyuru.	Kistna.	Bezwada, M. & S.M.Rly.	...	850/1000	DS
6. The Kirlampudi Sugar Mills Ltd., M/A. M/S. K. V. Subbarao & Co., Head Office: 99-A, Armenian St., P. B. No. 1519, G. T. Madras. Tele { Grams: Mechelec, Madras. Phone: Madras 3006.	Kirlampudi. P. O. Peddapuram.	East Godavari.	Samalkot, Do.	Coconada.	170	DS
7. The Deccan Sugar & Abkari Co., Ltd., M/A. Parry & Co., Ltd., P. B. No. 12, Madras. Tele { Grams: Parry, Madras. Phone: Madras 2983.	Samalkot, (Tel. Deccan, Samalkot.)	Do.	Samalkot, Do.	Do.	250 (Cane) 40 (Gur)	S Char.

8.	The East India Distilleries & Sugar Factories Ltd., M/A. Parry & Co., Ltd., P. B. No. 12, Madras. Tele { Grams : Parry, Madras. Phone : Madras 2983.	Nelikuppam. (Tel. Distimulo, Nelikuppam).	South Arcot.	Nelikuppam, S.I.R.	Cuddalore.	2200	DS
9.	The India Sugar & Refineries Ltd.,	Hospet (Tel. Sugars, Hospet.)	Bellary.	Hospet, M.&S.M.R.	...	600	DS
10.	The Coimbatore Agro Industries Ltd., M/A. M/S. V. C. Vellingiri Gounder & Co.	Podanur.	Coimbatore.	Podanur, S.I.R.	...	50	
11.	†The Murugappa Sugar Co., Ltd., Mailpatti (N. Arcot).	Mailpatti.	N. Arcot.	Mailpatti, M.&S.M.Rly.	Madras.	Cane 75	S
12.	The Deccan Sugar & Abkari Co., Ltd., Pugalur Sugar Factory. M/A. Parry & Co., Ltd., P. B. No. 12, Madras. Tele { Grams : Parry, Madras. Phone : Madras 2983.	Pugalur Sugar Factory. P. O. (Tel. Desuabco, Pugalur.)	Trichinopoly.	Pugalur, S.I.Ry.	...	500	S

BOMBAY

1.	The Saswad Mali Sugar Factory, Ltd., Hd. Office—P. O. Malinagar. M/D. H. B. Grime Esqr., Bombay Office : Sir Vithaldas Chambers. 16, Appollo Street, Fort, Bombay. Tele { Grams : Malisugar, Bombay. Phone : Bombay 20134.	P. O. Malinagar. (Tel. Malisugar, Akluj).	Sholapur.	{ Kurduwadi, G.I.P. Rly. Pandharpur, B.L.R.	...	450/500	DS
2.	The Brihan Maharashtra Sugar Syndicate, Ltd., M/A. C. G. Agashe & Co., Commonwealth Building, 980, Sadashiv, Luxmi Road, Poona 2. Tele { Grams : Shree, Poona & Akluj. Phone : 9—138.	P. O. Shreepur.	Do.	Pandharpur, B.L.R. Diksal, G.I.P. Rly.	...	300/350**	DS

** Order placed for a plant of 1,000 tons capacity.

1	2	3	4	5	6	7
3. Walchandnagar Industries Ltd., M/A. The Premier Construction Co., Ltd., Construction House, Ballard Estate, Bombay. Tele { Grams: Walsakhar, Bombay. Phone: Bombay 26036, 37, 38 & 39.	P. O. Walchand-nagar. (Tel. Walsakhar, Diksal, G.I.P.)	Poona.	Diksal, G.I.P. Ry. Baramati, D.B. Ry. Nira, M. & S.M. Ry.	Bombay.	1200	DS
4. The Ravalgaon Sugar Farm, Ltd., M/A. Walchand & Co., Ltd., Construction House, Ballard Estate, Bombay. Tele { Grams: Rasufald, Bombay. Phone: Bombay 26036, 37, 38 & 39.	Ravalgaon. (Tel. Rasufald, Malegaon.)	Nasik.	Manmad, G. I. P. Ry.	Do.	700	DS
5. The Belapur Co., Ltd., Managers: W. H. Brady & Co. Ltd., Royal Insurance Building, Church Gate Street, Fort, Bombay. Tele { Grams: Brix, Bombay. Phone: Bombay 25037.	Harigaon. (Tel. Belapur Company, Belapur Road.)	Ahmednagar.	Belapur, G. I. P. Ry.	Do.	1000	DS
6. The Maharastra Sugar Mills Ltd., M/A. M. L. Dahanukar & Co., Ltd., Industrial Assurance Buildings, 3rd Floor, Opposite Church Gate Station, Fort, Bombay. Tele { Grams: Sugarmills, Bombay, Phone: Bombay 30825.	P. O. Tilaknagar, Belapur Road. (Tele. Sugarmills, Belapur Road. Phone—Belapur Road, P.C.O. Extension.)	Do.	Do. Do.	Do.	1000/1200	DS
7. †The Belvandi Sugar Farm, Ltd., M/A. M. L. Dahanukar & Co., Ltd., Industrial Assurance Building, 3rd Floor, Opposite Church Gate Station, Fort, Bombay. Tele { Grams: Design, Bombay. Phone: Bombay 30825.	P. O. Belvandi Sugar Farm. (Tel. Sugarfarm Belvan-di, G.I.P.)	Do.	Belvandi, Do.	Do.	250/300	DS

8.	Godavari Sugar Mills Ltd., M/A. K. J. Somaiya & Sons, Fazalbhoy Building, Mahatma Gandhi Road, Fort, Bombay. Tele { Grams: Manikaka, Bombay. Phone: Bombay 31921.	Sakarwadi.	Ahmednagar.	Kanhegaon, G. I. P.	...	750/800	DS
9.	The Somaiya Sugar Factory, Controlled by Godavari Sugar Mills Ltd. M/A. K. J. Somaiya & Sons, Fazalbhoy Building, Mahatma Gandhi Road, Fort, Bombay. Tele { Grams: Manikaka, Bombay. Phone: Bombay, 31921.	Lakshmiwadi. *via* Kopergaon.	Do.	Kopergaon, Do.	...	700/750	DS
10.	Shree Changdeo Sugar Mills Ltd., M/A. Messrs. A. H. Bhiwandiwalla & Co., 32, Apollo St., Fort, Bombay. Tele—Jaysugar, Bombay.	P. O. Changdeo-nagar. (Tele. Sugarmills, Puntamba, G.I.P.)	Do.	Puntamba, Do.	Bombay.	350	DS

SIND

1.	†The Pioneer Sind Sugar Mills Ltd., M/A. Mohatta & Co., Ltd., Wood Street, Karachi. Tele { Grams: Marketwala, Karachi. Phone: Karachi 2021.	Mohatta Nagar. (Tel. Sind-sugar, Mohatta Nagar).	Nawabshah.	Mohatta Nagar, Jodhpur Ry.	...	500	DS **PAK**

(A bulk of this has been dismantled and has been shifted to Dewas State in 1946-47.)

Factory not Working, either in Sind, or in Dewas.

N. W. F. PROVINCE

1.	The Frontier Sugar Mills & Distillery Limited Tele { Grams: Sugarmills, Takht-i-Bhai. Phone: 27 Mardan.	Takht-i-Bhai.	Mardan.	Takht-i-Bhai, N. W. R.	...	400/600	DC & S **PAK**
2.	‡The Premier Sugar Mills & Distillery Co., Ltd., Head Office: Nawashahr (Hazara). Tele { Grams: Timber, Nawashahr. Phone: Abbottabad 31.	Mardan. (Tel. Premier, Mardan.)	Do.	Mardan, Do.	Karachi.	3000	DC **PAK**

1	2	3	4	5	6	7
INDIAN STATES						
(Kashmir)						
1. Shree Yuvraj Sugar Mills Ltd., M/A. Messrs. Karam Chand Thapar & Bros., (Jammu & Kashmir) Ltd., Ranbirsinghpura.	Ranbirsinghpura.	Jammu & Kashmir State.	Ranbirsinghpura, N. W. R.	Karachi.	600	DS
(Punjab)						
2. Jagatjit Sugar Mills Co., Ltd., M/A. Narang Brothers & Co., Ltd., 3, Montgomery Road, Lahore. Tele { Grams: Narang, Lahore. Phone: Lahore 4614.	Phagwara. (Tel. Sugar Factory, Phagwara, Telephone: Phagwara 101)	Kapurthala State.	Phagwara, Do.	Do.	850	DC
3. The Mahalaxmi Sugar Mills Co., Ltd., (The Paramjit Sugar Factory) Tele { Grams: Sugar, Hamira. Phone: Kapurthala. 50.	Hamira P. O. (Kapurthala State).	Do.	Hamira, Do.	Do.	1800	DC & DS
(United Provinces)						
4. Raza Sugar Co., Ltd., M/A. Govan Bros.(Rampur) Ltd., Rampur State. (Telepone: 291).	Rampur. (Tel. Razaco, Rampur (State), U. P. Phone: 332).	Rampur State.	Rampur, E. I. Rly.	Buxar.	1150	DS
5. Buland Sugar Co., Ltd., M/A. Govan Bros. (Rampur) Ltd., Rampur State. (Telephone: 291).	Rampur. (Tel. Buland, Rampur (State), U. P. Phone: 276).	Do.	Do.	Do.	1150	DC & DS

		(Mysore)					
6.	Mysore Sugar Co., Ltd., H. O. Sri Jayachamaraja Wadiyar Road, Bangalore City. Tele { Grams : Mysugar, Bangalore. Phone : 2133.	Mandya. (Tel. Mysugar, Mandya).	Mysore State.	Mandya, M.S.R.	...	1400	DS
		(Bombay)					
7.	The Kolhapur Sugar Mills, M/A. The United Agencies Ltd., P. O. Kolhapur, Residency. Tele { Grams : Sugarmills. Phone : Kolhapur 277.	Kolhapur. (Tel. Sugarmills, Kolhapur).	Kolhapur State.	Kolhapur, M. & S. M. Ry.	Bombay.	500	DS
8.	The Phaltan Sugar Works Ltd., M/A. Mafatlal, Apte & Kantilal Ltd., Sakharwadi, Satara.	Sakharwadi, Phaltan State. (Tel. Sakhar, Phaltan).	Phaltan State.	Nira, Do.	Do.	625/650	DS
9.	Krishna Sugar Mills Ltd., M/A. M/S. Vinchurkar & Co., P. O. Krishna Kittur, Dist. Belgaum, *Via* Kudchi. (Tel. Address: Krishna Sugar, Kudchi.)	Kittur.	Miraj (Jr.) State.	Shedbal, Do. Kudchi, Do.	Do.	200	DS
10	The Ugar Sugar Works Ltd., Managing Agents, M/S. Shirgaokar Brothers, *Shahupuri-Kolhapur.*	Ugar Khurd.	Sangli State.	Ugar Khurd, Do.	Mormugoa Harbour.	500	DS
		(Central India)					
11.	The Jaora Sugar Mills, Prop. Kaluram Govindram, Jaora C. I., (Telegrams : Sugar, Jaora.)	Jaora.	Jaora State.	Jaora, B. B. & C. I.	Bombay.	750	DS

1	2	3	4	5	6	7
12. Bhopal Sugar Industries Ltd., M/A M/S. A. H. Bhiwandiwala & Co., Sehore.	Sehore.	Bhopal State.	Sehore, G. I. P.	...	750	DS
13. Sri Lakshmi Narayan Sugar Works Ltd., M/A. M. D. Singh & Co., 20, Garden Reach Road, Calcutta.	Harpalpur.	Alipura State.	Harpalpur, Do.	...	100	S
14. The Gwalior Sugar & Co., Ltd., Sir J. P. Srivastava & Sons (Rampur) Ltd.	Dabra. (Tel. Sugar, Dabra)	Gawalior State.	Dabra, Do.	...	700	DC & DS
15 †The Jiwaji Rao Sugar Co., Ltd., M/A. M/S. Shapoorji Pallonji (Gwalior) Ltd., Gwalior.	Dalauda.	Mandsaur.	Dalauda, B. B. & C. I.	Bombay.	500	
16. Maharani Parbati Sugar Mills Ltd., (Tel. Sugarmills, Sarangpur.)	P. O. & Tel. Office: Sarangpur.	Dewas State (J. B.)	Bercha, G. I. P.	...	100	
17. Seth Govindram Sugar Mills, Proprietors : M/S. Nandlal Bachulal.	Mehidpur Road.	Holker State.	Mehidpur Road, B. B. & C. I. R.	Bombay.	300	DS
		(Rajputana)				
18. †The Bikaner Industrial Corporation Ltd., M/A. The Podar Bapna Ltd. (Tel. Industries, Sri Ganganagar.)	Sri Ganganagar.	Bikaner State.	Sri Ganganagar, Bk. S. Ry.	...	600	DS
19. The Mewar Sugar Mills, Ltd. M/A. Dhandhania Kedia & Co., Bhupalsagar (Udaipur State).	Bhupalsagar. (Telegram: Sugar-mill, Bhupalsagar, Me. S.)	Udaipur State.	Bhupalsagar, Me. S. R.	Bombay.	400	DS
20. †Shree Bijay Sugar Mills. Bijainagar.	Bijainagar.	Ajmere.	Bijainagar, B. B. & C. I. Ry.	Do.	350	DS

(Hyderabad)

21.	The Nizam Sugar Factory Ltd., M/A. H. E. H. The Nizam's Industrial Trust Fund.— Represented by the Hyderabad Construction Co., Ltd., Abid Road, Hyderabad (Deccan). [Telepone: Hyderabad, (Deccan) 2704]	Shakarnagar. Tel. Sugar).	Hyderabad State.	Shakarnagar Station, Nizam St. Ry.	...	1300/1500	DS
22.	†The Salar Jung Sugar Mills Ltd., M/A. M/S. B. M. Muranlal & Co., 499A (2) New Road, Opposite Bashir Bagh, Hyderabad (Deccan). [Telegrams: 'Sucrose' Hyderabad, (Deccan)]	Munirabad.	Do.	Munirabad, M. & S. M. Ry.	Goa.	250/300	DS

(Kathiawar)

23.	Bhavnagar Sugar Mills Ltd., M/A. M/S. N. P. Deliwala & Sons., Ltd. Opp General Post Office, Bhavnagar.	Dhola (Jn.)	Bhavnagar State.	Dhola (Jn.), B. S. Rly.	Bhavnagar Port.	250	DS

LIST OF GUR REFINERIES IN INDIA, 1947.

BIHAR

1.	Siwan Deshi Sugar Factory, Prop. M/S. Noori Main & Co., Bhatni, Gorakhpur.	Siwan.	Saran.	Savan, O. & T. Rly.	Savan, O. A	

UNITED PROVINCES

1.	Standard Refinery & Distillery Ltd., M/A. Karam Chand Thappar & Bros., 5, Royal Exchange Place, Calcutta. Tele { Grams : Spiritual. Phone : Calcutta 2331/2.	Unao.	Unao.	Unao, E. I. R. & O. & T. Rly.	Buxar.	75

1	2	3	4	5	6	7
2. Baijnath Balmukund Sugar Mills, Prop. Mrs. Bankey Beharilal Singhania, Lalbankey St., Cawnpore.	Anwarganj.	Cawnpore.	Anwarganj, B.B. & C.I. Rly.	Barhaj.	27	
PUNJAB						
1. Amritsar Sugar Mills Co. Ltd. M/A. M/S. Amarsingh & Co., P. O. H & S. Factory, Amritsar. (Phone: 597.)	Gr. Trunk Road, Amritsar. (Tel. Refiner, Amritsar).	Amritsar.	Amritsar.	Karachi.	42	
MADRAS						
1. Al. Vr. St. Sugarmills & Distillery, Prop. Al. Vr. St. Veerappa Chettiar, Zamindar of Thevaram Devakotti.	Tachanallur. (Tel. Sugarmill, Trunelveli, Ind).	Tinnevelly.	Tinnevelly Jn., S. I. Rly.	Tuticorin.		
2. Lakshmi Sugar Mills, Alvartirunagari. Prop. M. T. A. Daivanayaga Thevar, Tinnevelly. (Tel. Luxmisugar, Alvartirunagari.)	Near Laksmanatope.	Do.	Alwar Tirunagari. Do.	Do.		
INDIAN STATES						
1. The Travancore Sugars & Chemicals Ltd., Secretaries & Treasurers: Parry & Co., Ltd., P. B. No. 12, Madras. Tele { Grams: Parry, Madras. Phone: Madras 2983.	Thuckalay. (Tel. Sugars, Thuckalay. Telephone: Trivandrum 280).	Travancore State.	Trivandrum, Do.	Trivandrum.		

REFINERIES AND CANE FACTORIES HAVING REFINING PLANTS.

1. *U. P.—*

Baijnath Balmukund Sugar Mills, Anwarganj, Cawnpore.

The Burhwal Sugar Mills Co. Ltd., Burhwal P. O. Ramnagar, (Barabanki).

Cawnpore Sugar Works Ltd., Cooperganj, Cawnpore.

Kamlapat Motilal Gutiaya Sugar Mills, P. B. No. 69, Cawnpore.

Ishwari Khetan Sugar Mills Ltd., P. O. Lakshmiganj, (Gorakhpur).

Ramchand & Sons Sugar Mills, P. B. No. 12, Aishbagh, Lucknow.

Tribeni Deshi Sugar Works, Naini, Distt. Allahabad.

The Unao Sugar Mills, Unao.

2. *Bihar—*

The Ganga Deshi Sugar Factory Ltd., P. O. Buxar-Gujadharganj, E. I. Rly.

3. *Bengal—*

North Bengal Sugar Mills Co. Ltd., P. O. Gopalganj, Distt. Rajshahi.

4. *Punjab—*

The Jagatjit Sugar Mills Co. Ltd., P. O. Phagwara, Kapurthala State (Punjab).

5. *Madras—*

Al. Vr. St. Sugar Mills and Distillery, Tackarallve, Tinnevelly Distt. (S. I.)

The Coimbatore Co-operative and Sugar Manufacturing Society Ltd. Podanur, (S. I. Rly.)

The Deccan Sugar and Abkari Co. Ltd., P. B. No. 12, Madras.

The East India Distilleries and Sugar-Factories Ltd., P. B. No. 12, Madras.

Murugappa Sugar Co. Ltd., Mailpatti (M. S. M. Ry.), North Arcot District.

T. A. Rm. Lakshmi Sugar Mills, Alvartirunagari, Tinnevelly Distt., (S. India).

6. *Indian States—*

The Travancore Sugar and Chemicals Ltd., P. B. No. 12, Madras.

PROVINCIAL DISTRIBUTION

OF

SUGAR MILLS IN INDIA

(1946-47)

Province			Cane-crushing Mills	Gur Refineries only	TOTAL
Bengal	...	...	9	...	9
Bihar	...	...	32	1	33
United Provinces	...	...	71	2	73
Punjab	...	...	3	1	4
Madras	...	...	12	2	14
Bombay	...	...	10	...	10
Orissa	...	...	2	...	2
Sind	...	...	1	...	1
N. W. F.	...	...	2	...	2
Indian States	...	...	23	1	24
TOTAL		...	165	7	172

No. of Mills (including Gur Refineries) actually working in the season 1946-47 was about 143

No. of Mills (including Gur Refineries that did not work during the season 1946-47 (Mills under construction included) 29

P.S. When the Annual for 1947-48 is published next year, we propose to give the names of Sugar Mills in the Union of India, and Pakistan separately. In the meanwhile it will be of interest to note that there are only ten Sugar Mills in the Pakistan area. Those are Marked **PAK** in the list.

Bombay, 30th September 1947 GANDHI & Co. *(Publishers.)*

MADRAS

9055

NCRETE can help
ed India's industrialisation